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THE NORTH DAKOTA FARMER

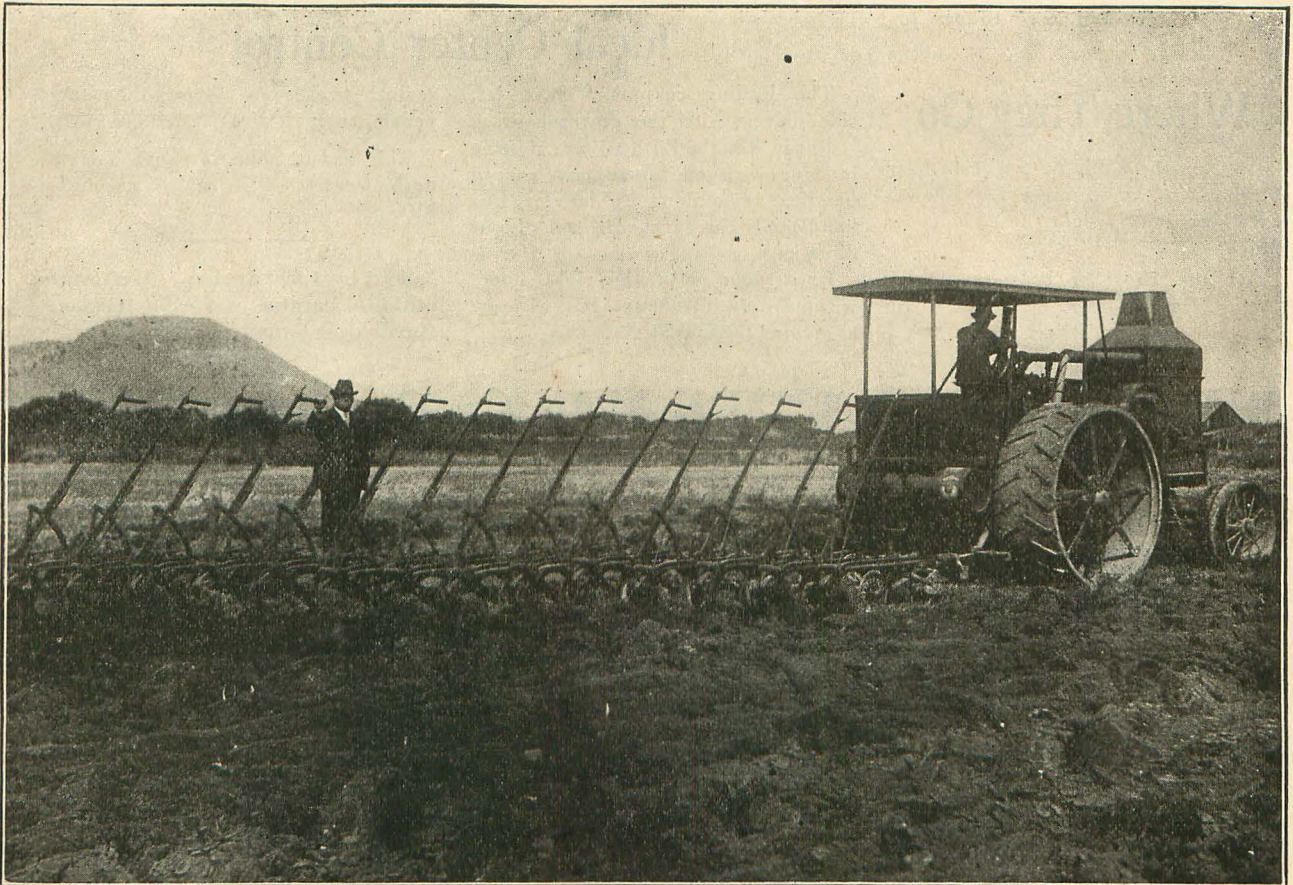


"THE NORTH DAKOTA FARMER FOR NORTH DAKOTA FARMERS"

Vol. 14 No. 8

Lisbon, North Dakota, February 15, 1913

50 Cents A Year



"As an example of the amount of work a tractor can do in a season, take the record of E. G. Paul, one of the Beach, N. D. tractor farmers. Last year he plowed 810 acres of sod, disked 800 acres, seeded 1,600 acres, harvested 1,440 acres and threshed and then hauled his grain to market besides doing a considerable amount of road grading."

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N814

Graham

\$2,000,000 Buried

By R. E. Olds, Designer

In Reo the Fifth we bury at least \$2,000,000 per year where few men ever see it.

That's somewhere about \$200 per car.

But years of use will always show one what this buried money buys.

Not in the Price

This extra hidden cost doesn't show in the price.

We save it by unusual factory economies. By building all our own parts—by not changing models. By carrying efficiency to an extreme.

We save 20 per cent in one way alone—by building a single model. And all those savings go to pay for things like these:

Where They Go

In Reo the Fifth we use 190 drop forgings, to avoid all hidden flaws. Steel castings would cost half as much.

We use 15 roller bearings—11 of them Timken. The common ball bearings cost one-fifth as much.

We use tires 34x4, at a cost of \$60 per car over smaller tires. But you save this cost over and over in lower tire upkeep.

We use a \$75 magneto—a doubly-heated carburetor—a centrifugal pump—14-inch brake drums—2-inch, 7-leaf springs.

We use genuine leather upholstery, filled with the best curled hair. Flush electric dash lights. Nickel trimmings, even under the hood. A 17-coated body.

Costly Caution

Each lot of steel is analyzed twice. Gears are tested in a crushing machine, to stand 75,000 pounds per tooth. Springs are tested for 100,000 vibrations.

Each engine is tested 20 hours on blocks and 28 hours in the chassis. We make three unusual tests.

Parts are ground over and over. Tests and inspections are carried to extremes.

Then we insist on big margins of safety. All vital parts are given at least 50 per cent over-capacity.

And we limit our output to 50 cars daily so no man is ever hurried.

Each Car Perfect

The result is this:

Every buyer gets a flawless car. He gets a car fit for any strain. His cost of upkeep is cut to the minimum.

Men are learning the need for a car like this. The demand has grown far beyond our output.

Men who pay \$3,000 and over expect a car built like this. But never was a car built better than Reo the Fifth. And the price is \$1,095.

Ideal Center Control

The leading cars now have left side drive. Also the center control.

But in Reo the Fifth all gear shifting is done with one small cane-shaped handle. It is done by moving this handle only three inches in each of four directions.

It is done with the right hand, without any reaching. It's as easy as moving the spark lever.

Both brakes are operated by foot pedals, so both front doors are clear.

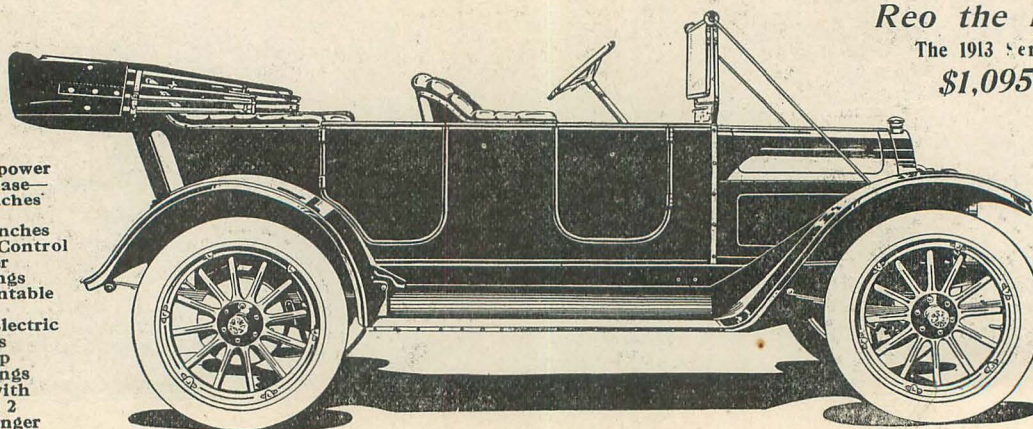
This feature alone—though it costs nothing extra—is worth, I consider, \$100 per car.

Sold by 1,000 dealers. Write for our 1913 catalog and we'll tell you the nearest show-room.

R. M. Owen & Co., General Sales Agents for **Reo Motor Car Co., Lansing, Mich.**

Canadian Factory, St. Catharines, Ontario

30-35
Horsepower
Wheel Base—
112 Inches
Tires—
34x4 inches
Center Control
15 Roller
Bearings
Demountable
Rims
Three Electric
Lights
190 Drop
Forgings
Made with
5 and 2
Passenger
Bodies



Reo the Fifth

The 1913 Series

\$1,095

Top and windshield not included in price. We equip this car with mohair top, side curtains and slip-cover, windshield, gas tank for headlights, speedometer, self-starter, extra rim and brackets—all for \$100 extra (list price \$170).

THE NORTH DAKOTA FARMER

Vol. 14, No. 8

LISBON N. D., FEBRUARY 15, 1913

50 Cents a Year

What the Department of Chemistry Has Done for North Dakota

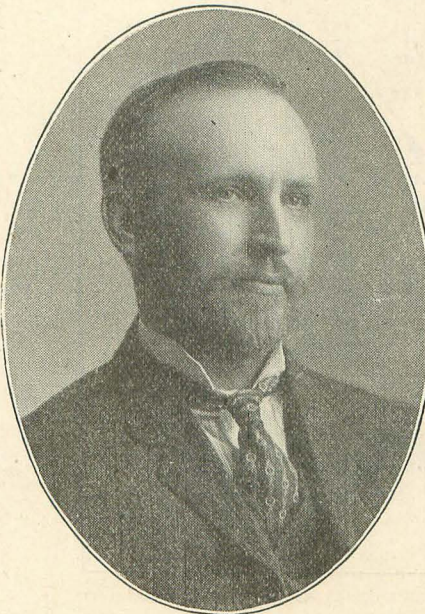
By E. F. Ladd, before Tri-State
Grain Growers

So many fields of activity have been covered that it is difficult in so short a time to touch upon all the lines of work; and whatever of success that has come to the Department has been largely due to the loyal support which has been accorded at all times to the work we have had in hand. When the Department of Chemistry is mentioned the general public has come to associate it largely with food work, and so we may consider first what has been done

To Safeguard the Health

From personal experience I know that from 1890 to 1902 North Dakota was a veritable dumping-ground for the waist food products to be found in the United States. It seemed as tho there was nothing which was not adulterated and misbranded, often doped with injurious ingredients and sold to the consuming public of this state as of high quality, and often under beautiful labels. Our meats were embalmed with chemicals, boracic acid and sulfites; and it was hard to find hamburger steak or sausage not loaded down with these chemicals and further treated with coal tar colors and acids to give the appearance of smoke. Canned meats were the same way, only being further deceptive, for chicken and turkey, while conspicuous on the label, were wanting in the cans. This is now of the past and no more does it exist. Nearly every can of corn coming into the state had been bleached with sulfites because of bad sanitary conditions in the factory, then sweetened with saccharin, a coal-tar sugar with no food value and used wholly for deception, and of which the late Vice-President Sherman said that the substitution of this product saved his firm in one year \$4,000. And the corn was often only plain field corn, not sweet corn as labeled. For the past six years we have had none of this. Tomatoes were mostly

water and green tomatoes colored with coal-tar dye. Peas were treated with copper salts, sweetened with saccharin, and at times preserved with borax. Extracts were made from chemicals and wood alcohol. Vinegars were diluted acids colored to resemble cider vinegar. Spices were nearly all adulterated with ground cereals, cocoanut shells, olive stones and colored



E. F. Ladd, Food Commissioner

to resemble a particular spice; while olive oil was usually cottonseed. Twelve-year old whiskey might be from 24 to 48 hours old with not a trace of true whiskey,—only chemicals, fusel oil and alcohol colored to suit the fancy. But oh, the jellies, jams and preserves that were fed to us composed of rotten apples, skins and cores tramp'ed under foot at the factory, then dried or desiccated, shipped in gunney-sacks to the jelly or preserve factories, steamed, pressed

and evaporated to form a body to which and, at that time, dangerous glucose was added, colored with coal-tar dye, millet seed added to the jam, saccharin for sweetening, benzoate of soda to preserve the rotten stuff from further spoiling, and chemical flavors to resemble grape, currant, quince, etc., while beautiful lithographs, costing more than the contents, decorated the face of the container! Was it any wonder then that these were days of stomach troubles, dyspepsia, diarrhea and misery? Do you think the food adulterator gave up these practices without a bitter fight? These practices which were bringing to him a profit enabling him to enjoy the luxuries of life, while the people were consuming stuff which was unfit for consumption. No, it has been a continuous and bitter fight from the day the work started to this very hour.

In less than three months after I began my work I drew a libel suit for \$100,000, backed by 22 firms, big interests including members who have since sat in the President's Cabinet, Vice-Presidents of the United States, U. S. Senators, etc. Then the whiskey ring took a turn and secured a temporary injunction to make us continue the use of their dope which contained no whiskey. Then the paint men took a hand and fought their case to the U. S. Court with defeat at every turn. Then the meat packers took a hand with an injunction, followed, likewise, by an injunction from the big milling interests who would have us eat their bleached flour made, at times, from damaged wheat, but withal fate seemed to be against them. It took work, however, to win, and do you know that for more than two years I did not go to bed a single night without a libel suit or an injunction, or both, hanging over my head, and knowing that on the morrow I must be preparing for my defense? And for 18 months I did not dare to go out of the state of North Dakota, and have it known where I was going, for they were watching to catch me away from home to bring a libel suit where conditions would be unfavorable for financing a fight. One food depester in Pennsylvania jokingly remarked that he was willing to contribute \$10,000 towards a "jack-pot," whatever that may be, to drop me in the Atlantic Ocean. A band of these men, it is said, once came to Bismarck, backed by \$50,000, but did

little business and left the state with \$45,000.

But why dwell on this, for today foods are pure, honestly labeled *when purchased from dealers in the state*; beverages are what they purport to be; and patent medicines are fast finding their place, altho many thousands of dollars have been spent by fake patent medicine venders and are still being spent to save their wicked practices and enable them to continue to drug the American people. Ten years ago we were paying for adulterants in our food more than a million dollars annually and these were no better than sawdust. Today we are bound to pay too much for pure foods.

As a means for correcting certain existing evils, the Department recommends the enactment of three new laws for the consideration of the Legislature:

flooding the markets, and taking from the farmers their money and, worse than that, giving them an article that is entirely worthless.

Another measure worthy of consideration might well be headed, "A Bill for Honest Advertising." We enforce laws against misbranding on the label, but permit all sorts of false and misleading statements to be circulated in the press, in advertisements, in circulars, in almanacs, in book form, and on the principal pages of our daily papers. Why should not the advertisements be in harmony with the facts and the advertisers adhere to the truth. Such a measure should include medicines, fake doctors, drugs, foods, paints, varnishes, oils, clothing, farm machinery, and every other article of commerce, and we hope that such a measure may meet with favorable consideration at

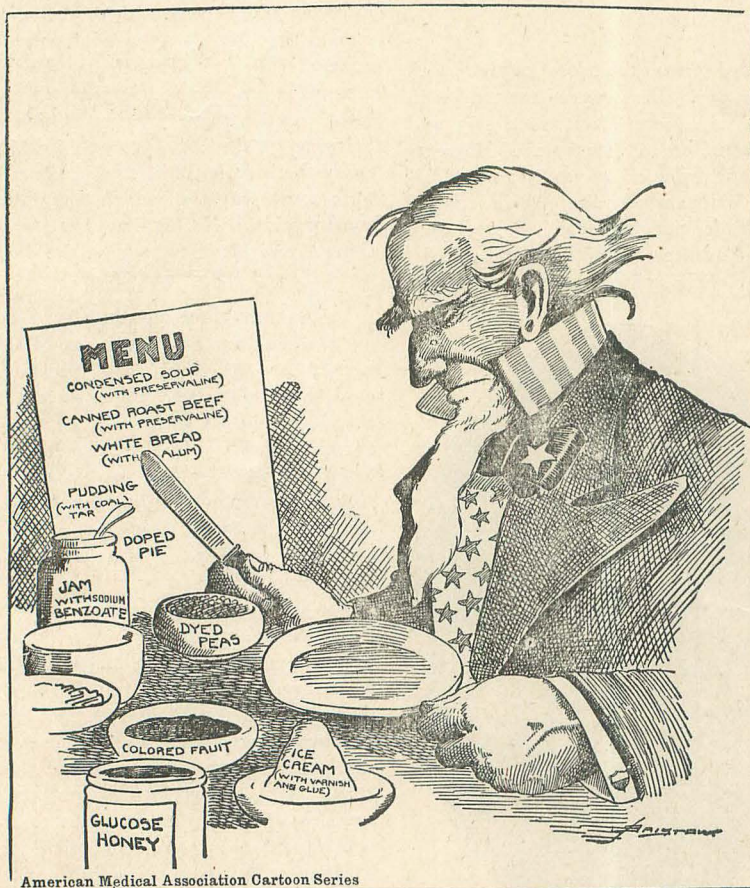
PORK PRODUCTION CONTEST

According to the last census each farm in North Dakota has less than eight hogs on it. This number includes old and young and is not nearly sufficient to consume the roughages and grain that should be used in pork production. Much more pork should be produced. Climatic conditions in the state are favorable for pork production—there is an abundance of the common feed grains that will make good pork cheaply, and the alfalfa, clover, rape, or other pasture crops that can be grown for hogs will make as many pounds of pork per acre here as in any of the other Northwestern states. The winters are colder and the springs later than in some of the states that produce a large number of hogs, but there are other conditions that are favorable, so that by care in feeding and breeding, pigs can be made ready for market before winter sets in. All who have studied conditions in the state are satisfied that pork can be produced profitably. The methods of feeding and of care will be different from those employed in the corn belt.

To demonstrate the profit in pork production and the fact that the investment in hogs will bring a larger return than in almost any other enterprise on the farm, the Better Farming Association has arranged for a Pork Production Contest during 1913, for boys and girls in the State of North Dakota. This is a new kind of contest and is started among the boys and girls because experience has shown that if they once become interested in the production of a certain product they will follow the best methods and will show results that are surprising. Consequently the farm boys and girls of the state are called upon to demonstrate the profits that can be made from a sow and litter when fed on North Dakota products and properly cared for.

Almost every farm boy or girl knows something about feeding a pig for profit. But there is much more that can be learned. Certain combinations of feeds will give better returns than straight feeding of barley or corn. Rape, alfalfa, or clover make a cheap feed during the pasture season. Early maturing varieties of corn can be raised which, when hogged off, give a large cash return per acre. All of these facts with many others will be brought out in an educational contest of this kind. Every boy and girl contesting will have many problems in methods of feeding and care which when solved will bring valuable experience.

Here is about the way the problem stands from a money standpoint. A good sow is worth twenty to twenty-five dollars. Given an investment of this amount—how much and how valuable will the pork



American Medical Association Cartoon Series

IS IT ANY WONDER I AM GETTING THE REPUTATION OF BEING A DYSPETIC?

A Cold Storage Measure to regulate the handling of cold storage products and to prevent putting into cold storage articles unfit for cold storage, to protect the public health as far as possible and to prevent ptomaine poisoning. Also the enactment of a Insect and Fungicide Law to include not only paris green and lead arsenate, Bordeaux mixtures, but all other insecticides and fungicides, so as to rid the state of a lot of worthless preparations now

the hands of our Legislature, and that North Dakota may have the credit of being the first state to enact a law of this kind. The three bills already outlined would prove of immense benefit to all the people of our state in the better protection of the health and preventing the waste of money for useless or worse than useless products.

(To be Continued)

be that you can produce from the litter of the one sow, the feed, and the labor.

The average acre of land in the state is worth about \$25.00, the value of a sow. It is seldom that this acre when sown to grain will produce over \$20.00 in product, and it costs about \$7.00 in labor and machinery to get it. A litter of pigs when ready for market are frequently worth over \$100.00. If proper methods are used it will take a comparatively small amount of feed and labor to get this product.

How to Enter the Contest

Send your name, address, and age to the Secretary of the Better Farming Association at Fargo, North Dakota, or give it to any one of the Field Men of the Association, telling them that you want to enter the Pork Production Contest. Make the entry before March 10th, 1913. No entries can be accepted after that time. The easiest way to make the entry is to sign the agreement in this circular and send it directly to the offices of the Association. In entering the Pork Production Contest, you are not barred from any other contest which may be carried on under the direction of the Better Farming Association. For example, you may enter not only the Pork Production Contest, but also the Acre Yield Corn Contest for next year.

Rules Governing Contest

The contest will be decided and prizes awarded on the basis of the largest production of pork from a sow at the lowest food cost per pound of pork produced.

(1) A sow should be selected and entered in the contest previous to farrowing and not later than March 10th, 1913.

(2) The weight of the litter of the sow at the close of the contest shall be taken as the basis of award.

(3) The contest closes November 20th, 1913, on which date the pigs will be weighed, and awards made on the basis of total pork produced, and economy of production.

(4) Any litter of pigs weighing less than an average of 140 pounds per head on November 20th will not qualify for the contest.

(5) No entries will be accepted where sows farrow later than June 15th, 1913.

(6) Quantity of feeds, milk, pasture, etc., used in feeding sow and litter must be reported monthly on blanks furnished by the Better Farming Association.

(7) Prices will be established for all feeds at the general offices of the Association. The feeds used by all contestants will be charged at the same price.

(8) Misrepresentations in regard to quantity or classes of feed used will result in disqualification of contestant.

Who May Enter

Any farm boy or girl in the state who is over ten years and under eighteen years of age on July first, 1913, may enter the contest. There is no entry fee. Each contestant must enter one sow, describing her by giving age, breeding, and color mark-

ings. The sow may be owned by the boy or girl, or may be loaned to them for this purpose by their father or other person. After sow is once entered in contest, feeding and care given her should be under the direction of and by the contestant. Sows of any age or breed may be chosen for entry.

Prizes

Twenty cash prizes in gold will be offered in the state as follows:

First Prize.....	\$100.00
Second Prize.....	50.00
Third Prize.....	30.00
Fourth Prize.....	25.00
Fifth Prize.....	15.00
Sixth to Tenth Prizes, each.....	10.00
Eleventh to Twentieth Prizes each	5.00

Prize money will be awarded at some suitable time after judging has been completed, the time and place of which will be announced in later bulletins.

Records

Each contestant will be required to render a simple monthly report of the quantity of grains, mill feeds, or other products fed to the sow and litter. The report forms will be furnished to the contestant by the Better Farming Association without charge. These forms are to be sent to the general offices at the close of each month.

Instructions in Making Out of Reports

The feed records shall begin as soon as the sow farrows. No record need be kept previous to that date. All feeds used for sow and litter until weaning time will be reported. After litter is weaned, records of feed for sow shall not be continued. Records shall then be kept on the litter. All grains, mill feeds and milk fed must be reported in pounds. Where pasture is used, the kind of pasture and number of days pastured during the season must be reported. In determining cost of production, no charge is to be made for house slops. The report must show, however, whether house slops are fed or not.

Bulletins and Circulars

From time to time literature in bulletin or circular form will be sent to each contestant. These instructions will tell in a concise form how to feed the sow, good pasture crops for hogs, how to grow pigs cheaply, and similar information.

Judging the Contest

The judging of this contest will be performed by the field men of the Better Farming Association or by such parties as they may designate.

Entry Blank and Agreement

Please enter my name in the Pork Production Contest. I agree to abide by the rules of the contest, to study the instructions and to report faithfully and truly the feeds used at times called for.

Name.....

Age.....

Post Office Address.....

County.....

Location of farm.....

I wish to enter a sow in the contest described as follows:

Breed..... Age.....

Color or Markings.....

CO-OPERATIVE GROWING OF DISEASE RESISTANT FLAXSEED FOR SOWING PURPOSES

H. L. Bolley

The Botanical Department of the North Dakota Agricultural College, after some years of seed selection methods and definite cropping experiments, has produced strains of flax that have the power to grow on old flax cropped wilt-sick lands and produce approximately normal yields of flax.

In order that North Dakota may have direct benefit of the methods and information which has cost the state so much money to obtain, it is suggested that these methods be carried direct to the farmer, and in such manner that the benefits will come in the shortest possible time, and in such manner that the benefits will be of permanent value to the state as a whole.

In order to accomplish this, it is proposed that a Flax Growers' Association be organized, the membership of which shall be composed of actual growers, one to several operating members in each county. Each grower would operate 5 or 10 acre plots, breeding Disease Resistant flax, which would supply the seed for "increase" fields, which in turn would supply seed for the normal flax acreage of the state.

New uncropped virgin sod lands will not last long now that the traction outfits have come to stay. Therefore, the farmers who will be prepared to retain flax as a part of his regular pay crop on his old worked soils cannot fail to reap great benefit.

To the farmer who will decide to take up the breeding of Wilt and Rust Resistant Flax, there will come great benefit, in the fact that he can raise a normal crop of flax on old flaxed lands that are reasonably free from weeds. He can sell this seed to his neighbors and the seed houses at a good margin above the market price, and at the same time be a benefit to the state.

Prof. Bolley desires to hear from farmers who will undertake the special methods necessary to produce reliable Resistant seed so that this work may get a good start this coming spring.

ROTATION IN THE NORTHWEST Any Rotation Better than None

Must Not Burn Organic Matter,
But Return it to the Soil

J. G. Haney, of the I. H. C. Service
Bureau

(Concluded from January)

As many farmers are equipped for handling small grain only, and do not care to engage in livestock farming, some system of rotation must be devised that will make it possible to keep up the yields.

It has been figured out that it is possible by growing corn, oats, wheat, and clover in rotation, plowing under all the stalks and straw-cutting the clover and leaving the hay on the land—the seed may be threshed out, that it would require only about 200lb. of steamed bone meal as a fertilizer per acre every three years to maintain the soil fertility permanently, which should be the ideal of agriculture. It would doubtless not be considered practicable to carry out just such a rotation, but an attempt should be made to approach it as nearly as possible.

There is one thing certain—some system of rotation must be put into practice. Corn is the only cultivated crop that may be grown on an extensive scale for cleaning the land. Clover is the only crop that can be extensively sown for the purpose of adding nitrogen and organic matter to the soil in short rotations. Corn then, should be grown to clean the land, follow this with wheat, seeding 10 lbs. of medium red clover per acre. If a good stand is secured and it comes thru the winter in good shape, leave it and cut just as the first blossoms are well out, leaving the growth on the land. If the second growth has favorable conditions a good seed crop may be secured. Spring plow and seed to wheat. Wheat should not follow clover unless the land was very thin, as there would be a probability of its lodging if the season was favorable. Corn is the logical crop to follow clover, but is not apt to be

as profitable as wheat. The logical four-year rotation would be corn, oats or barley, wheat, clover. If the corn is properly handled—a suitable variety planted, the crop should be profitable, and it is probable that in some sections the clover would also produce a profitable yield of seed. However, the profit from these crops must be largely expected in the additional wheat yields which will follow.

As to just what system of rotation there should be put into actual operation on every farm, must be determined by the man who is handling the farm. The first consideration would be the condition of the land—how foul, and how badly depleted the fertility. Perhaps the best treatment for the worst conditions would be to sow clover, timothy or rye, or wheat grass—or whatever would be most likely to succeed, and pasture with sheep for two or three years. This would clean and renew the land almost ideally.

The farmer who does not have stock and does not care to go into stock permanently will need to adopt some system that will accomplish the desired results without stock as has been previously outlined.

Where the land is not foul, and it is desirable to do something to increase yields, and many farmers are doing this, clover is seeded with every crop of small grain—5 lbs. or more per acre. The growth after the grain is harvested, is ordinarily sufficient to make a very considerable increase in the yield of the succeeding crop. The following rotations are suggested:

Everything possible must be returned to the soil. Don't burn straw stacks.

Seven Year, seven fields. Late nurse crop for wheat grass, wheat grass hay, pasture, wheat two years, corn, wheat. Repeat.

Eight Year, eight fields. Corn, wheat, barley, clover and timothy, pasture flax, wheat, oats. Repeat.

Eight fields. Two, three-year rota-

tions: Corn, wheat, wheat, corn, wheat, barley; alfalfa, brome grass pasture. Each of latter two to be left down six years.

Strictly grain.

Three year. Three fields: Corn, wheat, clover, (plow under everything but grain and seed). This could be lengthened, and changed so that a crop of timothy and clover hay can be taken, but the results would not be the same from a fertility standpoint.

Six year. Six fields: Corn, oats, wheat, nurse crop for timothy and clover, clover and timothy hay, timothy seed, flax, corn. Repeat.

There can be an endless number of combinations that would be beneficial. No one should hesitate to put a rotation into operation because they do not know what one to use—any rotation is a good start, but every farmer should study his farm, and adopt the rotation best suited to his needs, and that will the most nearly maintain the fertility of the soil.

Systems of Marketing Farm Products

Systems of marketing farm products and the demand for them at trade centers are the subjects of a special report to Congress by the Secretary of Agriculture, recently published.

By Producers to Consumers

The report treats of the movement of farm products from the farm to consumer thru a great variety of channels. The simplest distribution is the direct one of delivery by farmer to consumer, and next after this is the delivery by individual farmers or associations of farmers to individual consumers or associations of consumers. In these direct forms of distribution, the middleman is eliminated

FARGO FOUNDRY CO., Fargo, N. D.

The Largest Foundry Machine Shop and Boiler Shop in the Northwest. A large stock of Structural Steel and Iron always on hand. Full Line of Blacksmith Tools for Farm use. The Biggest plant in the Biggest Little City in the world.

We make a specialty of modern Fire Escapes. Best Tools and Skilled Workmen is the secret of our success. While in our city call and see us and judge for Yourselves.

End of North Bridge, N. P. Ave.

altho of course intermediate services are performed either by producers or by consumers or by both parties.

Intervention of Middlemen

Among the varieties of middlemen concerned in the marketing of farm products are the traveling hucksters who go from farm to farm gathering eggs, butter, poultry, calves, and other commodities, which they sell to shippers, jobbers, or retail dealers. The country merchant is often the first receiver of such products as eggs, farm-made butter, poultry, wool, hides, cotton, and sometimes grain and hay. In regions where grain is the staple product, the tendency has been to displace the country merchant by the grain buyer and the local elevator man.

Farmers commonly sell thru commission merchants and to some extent directly to wholesale dealers and also to retail dealers. The farmer who employs a trustworthy commission merchant who will handle his products honestly and honorably will get the current prices for them within the range of the commission merchant's business, but the farmer often finds himself in the hands of a commission merchant who falsely reports that the products were received in damaged condition or that they were of a grade lower than they were in fact, or he reports receiving prices lower than those actually received by him for the products. Worse than this, it is by no means rare that the commission merchant has sold the products and failed to return the net proceeds.

Samples of transactions in which only one middleman intervenes between producer and consumer include the commission man at a large market who receives consignments of livestock from farmers and sells to packers; the factor to whom the planter consigns his rice or cotton and from whom purchases are made by millers; the warehousemen who manage the sale of a Virginia planter's tobacco.

The intervention of two men between producer and consumer is a common occurrence. Fruits and vegetables are often marketed thru the aid of two middlemen, the city commission dealer and a retail merchant.

Market Places and Warehouses

Public market places are established in a number of cities and towns, and in these places consumers may buy such articles as fruit, vegetables, dairy products, poultry, and eggs direct from farmers as well as from dealers.

Another institution which aids the producer to dispose of his crop is the public warehouse. Illustrations of this are afforded in the marketing of tobacco in Virginia and North Carolina, wool from the northern Rocky Mountain States, and to some extent rice in Louisiana and Texas. The growers or their representatives, with their produce, meet the buyers at these warehouses.

Estimate of Fruit and Vegetable Supply

It is also recommended that estimates of the prospective supply of fruits and vegetables, and perhaps other products not now represented in the quantitative estimates of the Department's crop reporting service, be made a short time before harvest, so that the farmer may "have in mind a fairly definite idea of the volume of the crop thruout the country in order that he may occupy a place in the market that is fair to himself or, as the case may be, a place in the market that is fair to the consumer."

General market news service is not recommended. If such service were derived from telegraphic reports, the expense would be enormous. One farmers' marketing association spends \$25,000 a year in telegraphing alone and a fruit growers' organization spends \$75,000 for this service.

Field Agents and Correspondents

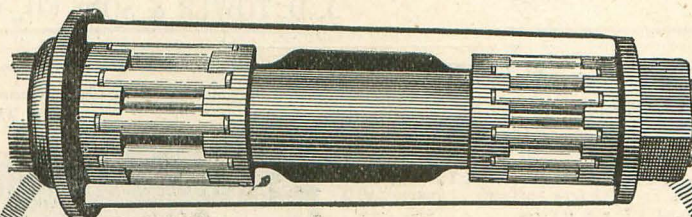
It is proposed that a corps of traveling field agents and a large corps of local agents and correspondents be established for the following items of service: To help producers organize for associative marketing; to examine and remove local difficulties in the way of such marketing; to help

producers to find markets; to report the current descriptive condition of crops, in addition to the work already done by the Department's crop reporting service; to estimate the probable production of crops a short time before harvest; to report the beginning and ending of the shipping season; to report the crop movement from producing points thru "gateways" to principal markets.

Subjects for Investigation

Among the subjects whose investigation is suggested are the storage of farm products either on the farm or elsewhere pending their sale; the business of commission dealers; the various costs of marketing, properly itemized, and compared with prices of products at the farm and with consumers' prices; a description of principal markets and of chief producing regions; and some problems of transportation.

Some information with regard to foreign markets, it is advised, might be made useful to producers. It is proposed also to keep an elaborate record of prices of farm products in which prices at the farm shall be paralleled by wholesale and retail prices. Among the other recommendations are the maintenance of a list of marketing associations and the collection of



A New Invention That Will Save Millions to Farmers

How much would it save if every farm wagon in the United States could do one-third to one-half more work?
How much would **you** save if your wagon did that?
The latest improvement in farm wagons—the greatest in 50 years—is the improved and perfected Peter Schuttler Roller Bearing.

Peter Schuttler Roller Bearing Wagons

Do One-Third More Work and Do it Easier

because they run lighter—go more miles—and require less power to pull the load. Schuttler Roller Bearings save time—money—horses—harness—feed—repair bills—axle greasing—trouble, and wear on the wagon. Official tests by U. S. Government Road Experts show remarkable results. The Schuttler Roller Bearing Wagon soon pays for itself by economy of operation.

Write for Free Book

that describes the Schuttler Roller Bearing Construction and gives record of official tests by United States Government.

Peter Schuttler Co.
2524 W. 22nd St. Chicago

The World's Greatest Wagon Factory
Established 1843

statistics concerning the business done by them; the investigation of systems of marketing farm products in other countries, with special attention to those features which it may be assumed might be adopted beneficially in this country.

CROP ROTATION OF PERMANENT BENEFIT

R. C. Doneghue, Prof. of Agronomy,
N. D. Agricultural College

While all of the causes of low yields of the small grains cannot be removed, practically all that are of immediate import-

ance can be controlled in large measure by a well-planned system of crop rotation. When crops are grown in rotation and proper tillage methods are followed, they will suffer less from dry weather than when they are grown continuously. Crop rotation is usually of more importance than the methods of tillage used in this respect, altho both are important. In most rotations more roughage is produced than can be disposed of by the work stock on the farm. Hence, more animals must be kept and more manure produced to return to the land to keep up the supply of organic matter. The organic matter in

the soil may also be maintained by growing grasses and legumes, (clover, alfalfa, peas,) in the rotation. Inasmuch as not enough manure can be produced on a farm to keep up the organic matter, no system of cropping is complete unless it contains one of these crops. The legumes have the additional value of being able to increase the nitrogen content of the soil on which they are grown.

PURE REGENERATED SWEDISH SELECT SEED OATS
Twentieth Century Seed Oats, each variety 60 cents per bushel, sacks included. Absolutely free from wild oats. Send me your order now. I'll please you. Satisfaction Guaranteed.
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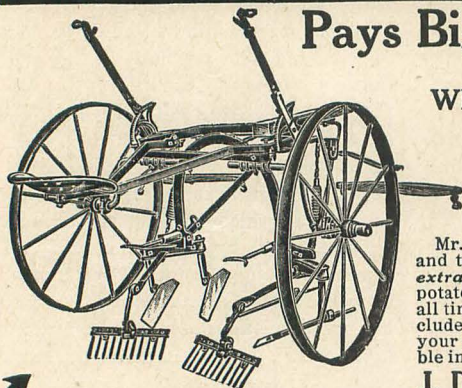
When you buy a Cultivator see that "TOWER" is on the tongue.

TOWERS' Surface Cultivator

stirs every inch between the rows, makes a dust mulch (which saves moisture for the plant), kills weeds, prevents firing of corn, and does **no damage** to any of the crop roots (as do "pointed shovels").

Mr. Farmer—Let us prove to you by evidence of scores of experts and tens of thousands of practical farmers that it **pays for itself** in extra yield of corn it tills in one season. It is great also for cotton, potatoes, sorghum, etc. The "TOWER" is the only cultivator needed all time. Write for our free literature of facts and figures which include rules for handling and increasing your corn crop, etc. Send your name and address today. A postal card brings all this valuable information. Address the manufacturers,

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Farm, Stock & Home.....1 year,	\$.50
McCall's (with free pattern).....1 year,	.50
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Regular Price	\$1.25
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Farm, Stock & Home.....1 year,	\$.50
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A Six Piece Music Supplement Free With Each Club

Containing words and music of the most popular song hits of the day is included free with each club. Full sized sheets. You know what six pieces of music would cost you. This is free with each club. Arrangement of clubs will not be changed, but papers need not all go to same address. Notice the high character of all the publications listed in these clubs. That splendid, practical fearless FARM, STOCK & HOME, Minneapolis, Minn., is included in each and every club.

Address all orders to:

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Lisbon, N. D.**

Inclosed \$_____ for which you are to send the Farmer

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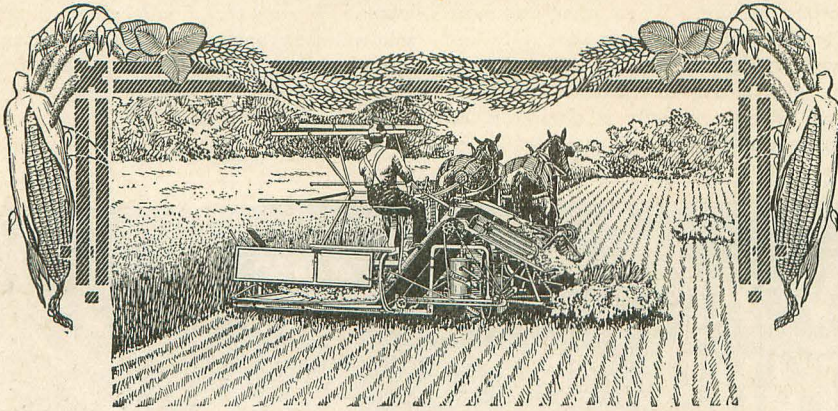
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(You Can Use This Coupon In Ordering.)



Take Advantage of Our Seventy Years' Experience

SEVENTY years' experience with harvesting and haying machines and tools and with equipment for building them economically; seventy years of exhaustive experimenting, testing, field work, and distribution constitute a tremendous advantage in favor of our machines.

Years ago the basic patents on these machines ran out. Anyone who wants to may engage in their manufacture. But it is one thing to build binders and haying tools, and another and entirely different thing to build guaranteed machines and sell them at the prices of ours. Farmers have learned to value the high standard of quality which accounts for the dependability of harvesting and haying machines and tools bearing the well-known names

Champion Deering McCormick Milwaukee Osborne Plano

Changes in the construction of these machines are made only when actual work in the field shows the change to be an improvement. What changes are made add to the efficiency of the machine, and are not made simply for talking points.

I H C machines have harvested the grain fields of the world so long, have met and conquered so many kinds of difficulties and adverse conditions, that there is now no question of their capacity for cutting, binding, and saving all the grain in any field, whether it be heavy or light, tall or short, standing, down or tangled.

The time to investigate harvesting and haying machines and tools is before, not after, you buy. Ask your neighbors for their opinions of the machines they use. Some will favor one, and some another, for various reasons which may have a very decided influence on your buying, but you will find them unanimously in favor of one or another of the machines we sell.

Good binding demands good twine as well as a good machine. The strongest and smoothest is that sold by the I H C local dealer. It comes in balls guaranteed for length and weight, and is marketed under the trade names, **Champion, Deering, McCormick, Milwaukee, Osborne, Plano, International**. There are four grades of each brand—Pure Manila, Manila, Sisal, and Standard.

Let others do the experimenting with untried machines and untested twine. See the I H C local dealers handling these machines and get from them the reasons why I H C harvesting and haying machines and tools, and binder twine are the best you can buy. The I H C local dealers will supply you with catalogues and full information, or, write

International Harvester Company of America

(Incorporated)

Chicago

U S A



QUERIES AND ANSWERS

**WHAT ADVANTAGE HAS A DISC
DRILL OVER A SHOE DRILL?**

Answered by R. M. Dolve

A single disc will make a furrow opening and deposit seed at a uniform depth in ground too hard for a shoe to enter. The disc substitutes rolling friction for sliding friction with a consequent saving in draft.

**WHICH IS CHEAPER POWER, KERO-
SENE OR GASOLINE?**

Answered by E. S. Keene, Dean
Engineering Department

Kerosene furnishes a cheaper power than gasoline and it is also more difficult to handle. With intelligent use it gives efficient and satisfactory results.

**WHAT DISEASES IN HORSES ARE
HEREDITARY?**

Answered by Dr. L. Van Es, Veterinary
Department

Among the horse diseases reputed to be transmitted by heredity we meet: side-bone, spavin, ring-bone, roaring, periodic-ophthalmia, amaurosis, chorea, and string-halt.

**WHAT ARE THE LEADING POINTS
IN A DAIRY COW?**

Answered by G. L. Martin

In general appearance, form, quality and temperament are each given six points on a scale of one hundred. In body, the chest and barrel are each allowed ten points, and for mammary system as follows: Udder 20 points, teats 5 points, and mammary veins 5 points.

**WILL THE BLACK WALNUT GROW
IN NORTH DAKOTA?**

Answered by C. B. Waldron

We have succeeded very well with this tree at Fargo and are just trying it out at the other experimental stations. Some of the trees in Fargo have already reached the bearing age and have never shown any tendency to winter kill.

WANTED A MAN

in your town to sell our prairie grown trees and fruits. Salaries paid weekly. People want our trees because they can stand the drying winds, short seasons and cold winters. Write at once for particulars.



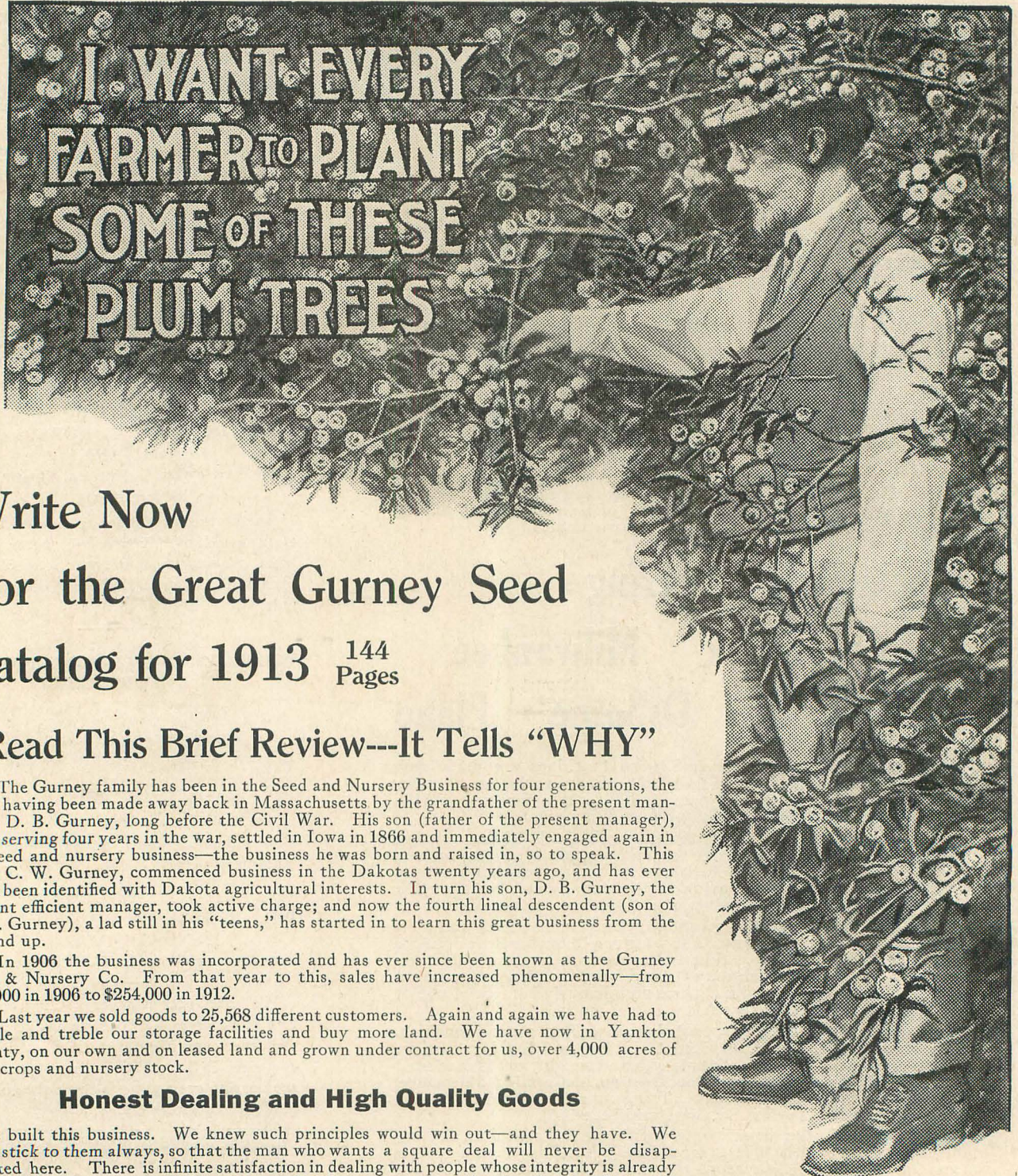
HOW CAN MITES BE EXTERMINATED?

Answered by O. W. Dynes, In Charge of Poultry, N. D. A. C.

Mites are very difficult to exterminate and their treatment must be of a very

vigorous nature. When the house is badly infected all fixtures should be removed and the interior thoroly sprayed with some strong germicide solution. A simple effective remedy is a mixture of six ounces of carbolic acid to one gallon of

water. Warm water should be used as the acid will not properly mix with cold water. Spraying again within a few days and then apply a coat of whitewash should entirely rid the house of the pest.



Write Now

For the Great Gurney Seed

Catalog for 1913 ¹⁴⁴ Pages

Read This Brief Review---It Tells "WHY"

The Gurney family has been in the Seed and Nursery Business for four generations, the start having been made away back in Massachusetts by the grandfather of the present manager, D. B. Gurney, long before the Civil War. His son (father of the present manager), after serving four years in the war, settled in Iowa in 1866 and immediately engaged again in the seed and nursery business—the business he was born and raised in, so to speak. This man, C. W. Gurney, commenced business in the Dakotas twenty years ago, and has ever since been identified with Dakota agricultural interests. In turn his son, D. B. Gurney, the present efficient manager, took active charge; and now the fourth lineal descendent (son of D. B. Gurney), a lad still in his "teens," has started in to learn this great business from the ground up.

In 1906 the business was incorporated and has ever since been known as the Gurney Seed & Nursery Co. From that year to this, sales have increased phenomenally—from \$20,000 in 1906 to \$254,000 in 1912.

Last year we sold goods to 25,568 different customers. Again and again we have had to double and treble our storage facilities and buy more land. We have now in Yankton County, on our own and on leased land and grown under contract for us, over 4,000 acres of seed crops and nursery stock.

Honest Dealing and High Quality Goods

have built this business. We knew such principles would win out—and they have. We shall stick to them always, so that the man who wants a square deal will never be disappointed here. There is infinite satisfaction in dealing with people whose integrity is already proven thru the passage of many years. Send in your name today for the big illustrated 1913 catalog. It is bigger and better than ever—144 pages. FREE.

Prof N-E-HANSEN

Gurney Seed & Nursery Co.

Box 11, Yankton, S. D.

Our Guarantee: We guarantee seed corn or other seed sent out by us to test to the satisfaction of the purchaser. That is, test it on its arrival and if not satisfactory return it to us at our expense and the money paid together with the transportation charges will be refunded to the purchaser.

HOW CAN BACTERIA BE KEPT OUT OF MILK?

Answered by G. L. Martin, Professor of Dairying

The best way to keep them out is to have the stable perfectly clean, brush the cows before milking, wear clean clothes, keep the hands dry, milk into a covered milk pail, then strain the milk in the milk room, not in the stable, and always having the utensils scrupulously clean.

HOW MAY I OBTAIN BOOKS ON FARMING?

Answered by W. C. Palmer

Any community in North Dakota can have a library of the best agricultural books. The State Library Commission at Bismarck sends these libraries out. The only cost to the one receiving them is the freight. Each library contains 12 to 15 books. Write the State Library Commission at Bismarck for a description of the libraries. These books will make interesting and profitable reading for the winter evenings.

HOW CAN PLOW SHARES AND MOLDBOARDS BE KEPT FROM RUSTING?

Answered by R. M. Dolve, Prof. of Farm Mechanics

In soils that scour with difficulty the plow should never be left in the soil over night but should be thoroly cleaned. When the plowing season is over the bright parts should be immediately coated with a rust preventive. If the plows are to be housed, machine oil or axle grease will insure ample protection. If they are to be left exposed to the weather cover with machine oil or grease and paint over with linseed oil or paint. The greased surface will prevent the oil or paint from adhering too firmly to the surface.

WHAT IS MEANT BY BALANCED FOOD?

Answered by W. C. Palmer

Nutrients are of two classes, (1) tissues building, and (2) heat and energy producing. The body needs about six times as much of the heat and energy-producing food as of the tissue-forming food. Beans contain too much of the tissue forming food and pork too little. By mixing them, as in pork and beans, a balance is secured. Tissue-building nutrients are called protein. Heat and energy producing nutrients are starch, sugar, fiber and fat. It is important that a sufficient amount of both nutrients be furnished in the food or there will be a lack of energy and a lowering of vitality. Too much of one nutrient is also bad as this puts an extra burden on the organs that remove waste.

Variety in the food improves the ration. Vegetable foods should form more than half. Some foods, like fruit, tho low in

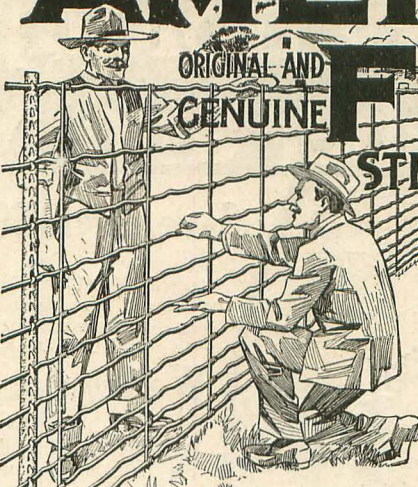
food value, are valuable for their flavor and for the variety added to the ration, having in this way a good effect on the digestion of the other foods.

WILL YOU GIVE SOME POINTERS ON ROTATION

Answered by W. C. Palmer, N. D. A. C.

The results of twenty years of crop-rotation experiments are given in Bulletin No. 100, N. D. Experiment Station.

The authors are Professors J. H. Shepperd and R. C. Doneghue. The plot that has been in continuous wheat for the 20 years averaged a little over 13 bushels, while the average yield of wheat on all the plots in the rotation experiments was 19 bushels. Wheat after corn yielded $7\frac{3}{4}$ bushels more the first year than wheat after wheat—the second year $7\frac{1}{2}$ bushels more and the third year $2\frac{1}{2}$ bushels more. These results were for corn in hills. Wheat following drilled corn (6 inches) gave a less yield than



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STEEL POSTS AND GATES

Over half the farmers of America are recommending American Fence. Let the judgment of this majority be your guide.

More For Your Money

American Steel Fence Post
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AMERICAN FENCE has always been the economical fence. Now it's a better investment than ever. The same superior steel (open hearth or Bessemer), the same big, stiff wires—but the galvanizing is even better than ever, being heavier, more permanent, giving added insurance against rust. Investigate American Fence. Note the prices and you'll do some fencing this year.

Dealers In Every Place

where farm supplies are sold. Shipped to them in carload lots, thus saving freight charges and enabling dealers to sell at lowest prices, giving buyer the benefit.

Two Great Books Free

"Making The Farm Pay"—a simple and short treatise on farming, covering the things every farmer and his boy should know—**sent free on request.**

"The Making of Steel"—a complete account, simply and clearly presented, with many illustrations. This subject never before presented in so concise a manner. Every farmer and his boy should read this. **Sent free on request.**

FRANK BAACKES, Vice-Pres. and Gen. Sales Agent

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wheat after wheat the first year. The second and third years the increase was about the same as after corn in hills.

Manure applied to corn in a four-year rotation with wheat gave an increase in yield. The value of this increase amounted to \$1.40 per load of manure. When applied to millet in a similar rotation the in-

creased value of crops amounted to \$1.65 per load.

The rotation of crops proved disastrous to weeds. Wild oats, for instance, in continuous wheat-growing made up one-half of the crop. When a crop of millet, timothy or fallow was introduced every

fourth year the wild oats were a negligible quantity.

This bulletin of 64 pages gives the complete results of the 20 years of crop rotation work. It is one of the most important publications that has been issued in the northwest.

Don't Pay Holdup Prices For Lumber and Millwork



Save 40% to 60%. Stop paying 5 profits

That's what makes the building material you buy of your dealer so outrageously high. Comes from a mill controlled by the lumber combine. Too high a cost to begin with. After that five middlemen—wholesaler, jobber, commission man, salesman, and dealer—all get a fat profit—and you pay it all. We stop this hold-up game.

We own our own forests and mills

and sell you direct—at one profit

We are a million dollar corporation, with 45 years lumbering experience. We own billions and billions of feet of standing timber in the famous Puget Sound territory: fir, cedar, spruce, hemlock, western soft pine, etc. We do our own cutting, logging and hauling. Six great mills prepare this lumber for shipment. They are producing daily 20 to 30 cars of highest quality materials. You get all the benefit of this great cost-reducing organization. *Not one* middleman gets a profit.

Immediate shipments. Quick delivery to you.

We carry immense stock. Miles and miles of lumber piles, and huge warehouses full of millwork and building materials, await your order. All shipments made within 24 to 48 hours. Seven great transcontinental railways maintain fast freight

schedules from Seattle. Our shipments reach all points west of the Mississippi within two weeks. It's certainly worth while to look ahead two weeks, save 40% to 60% and get materials guaranteed to be better quality.

Celebrated for Quality

"Puget Sound" lumber is celebrated for quality. Free from large knots and sap. It's the strongest as well as the longest lasting of wood. Resists rot and decay. Doesn't warp or twist. No waste or working over, because it's *straight*.

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orders are loaded at *one* point and in amazingly low mill cost never fails to bring our prices *way under* those of all competition, local or otherwise.

Send us your bill of materials for estimate

We ship everything needed for building, complete: lumber, sash, doors, shingles, millwork, hardware and paint. Let us show you in actual figures how much we can save you on the building you're planning. If you're not ready for actual figuring,

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Catalog gives full information concerning everything in building materials. We'll quote you prices delivered at your station so low, they'll make you smile with satisfaction. *Write today.*

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Satisfaction Guaranteed

We guarantee not only lower prices but that you'll get better materials, grade for grade, than trust or combine standards. If we don't make good you can get your money back. The risk is all ours. We're glad to take the risk. We'll more than please you.

Other houses ship various materials from different points and usually in less than car lots. Our complete car lots. The car lot rate, and our

Note the low-ness of these prices F. O. B. SEATTLE



Clear red cedar shingles 5-2, per M. \$2.20
Extra "A" red cedar shingles, 6-2, per M. 1.80



Clear fir flooring, per M. \$23.00



No. 2 Clear and better fir Ceiling, per M. - \$19.00



Clear fir casing, per lineal foot, 11-2c



"A" red cedar bevel siding, per M. - \$24.50



2 x 6 fir, per M. \$12.00



2 ft. 8 x 6 ft. 8 x 13-8 5 cross panel, \$1.50



8x8.8 Colonial Column clear fir 24x24 13-8 2 light, 96c



24x24 13-8 2 light, 96c

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Seattle, Wash.

Kindly send me your catalog and list of prices on lumber and building supplies, laid down at my station.

Name _____

Address _____

Business _____

WHAT MUST BE THE CONDITION OF CREAM TO WHIP READILY?

Answered by G. L. Martin

The factors necessary to get cream to whip well are to have it thick, cold and a little sour.

Thin cream, that is, cream containing less than 25% of butterfat, is nearly impossible to whip when the temperature is above 50° F. Skim milk can be whipped to a froth when the temperature is near the freezing point. This can be noticed when freezing ice cream or lacto and shows the cohesive influence of the albumen and casein upon the viscosity. Thin cream will whip easily near the freezing point on account of the increased viscosity which aids in incorporating the air.

If cream is allowed to sour, it will thicken somewhat owing to the curdling of the casein. This collects the fat globules and holds them together. Aging thin cream for a day or two will allow it to whip much more readily.

Thick cream or cream containing from 25% to 40% of butterfat will whip quite readily at 50° F. even when rather sweet yet better results are obtained after it has soured a little.

Separator cream often gives trouble in whipping on account of being used too soon after skimming—too sweet. It will whip as readily as any other cream when it contains over 25% of butterfat and is cold. The tendency is to get separator cream rather thin—usually about 20%; hence the difficulty in whipping. Separator cream usually is thin, sweet, and not well cooled, consequently creates the impression that machine-separated cream will not whip.

CLEANING FOUL LAND

I have purchased one half section near Thompson, which is very foul. What is the best way to clean it up? Would you advise deep plowing? Have you had any experience with the deep-tilling machine, using disks? Are they successful in this state? Please send me your reports on the raising of all grain crops.

Answered by Prof. Shepherd

There are two or three ways of cleaning up land. The one to adopt will depend upon what you are prepared to do. First of all, you must realize that you have probably six inches of soil pretty well infested with weed seeds, also that weed seeds will not grow much if they are covered more than three and one-half inches deep but instead of sprouting wait until the land is plowed again which will throw them up near the surface. It is then a matter of cleaning both sides of the furrow slice. The scheme for getting rid of them is simply to induce them to sprout and then tear them up so that they will dry to death while they are young and tender.

This is accomplished by furnishing

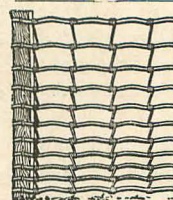
them a good seedbed and then destroying them by cultivation which operation prepares another good seedbed for the seeds that have not yet sprouted and, thus, thru a succession of cultivations of the soil thruout the season you encourage the sprouting and destroy the supply of weed seeds that are in your soil.

Some do this by simply plowing the land and doing summer tillage thruout the season without any crop. Others put in corn or potatoes and by cultivating the crop accomplish the same results.

With these crops you may find it necessary to do some handwork to get the weeds out of the hills. If they are allowed to ripen in the hills of corn or potatoes, they will reseed the land very thoroly again. Others take a more gradual process of cleaning the land by cultivating it early in the season and the latter part of August sowing the land to winter rye. The next year the winter rye ripens ahead of the wild oats and the greater portion of the mustard and thus reduces the amount of weeds, very materially.

Those who have livestock to feed the crop to can put in millet and gradually clean up the land as millet allows plenty of time to sprout and kill weed seeds in the early spring before the field is sown with the crop and in turn is ready to cut for hay before the weed seeds can have a chance to mature.

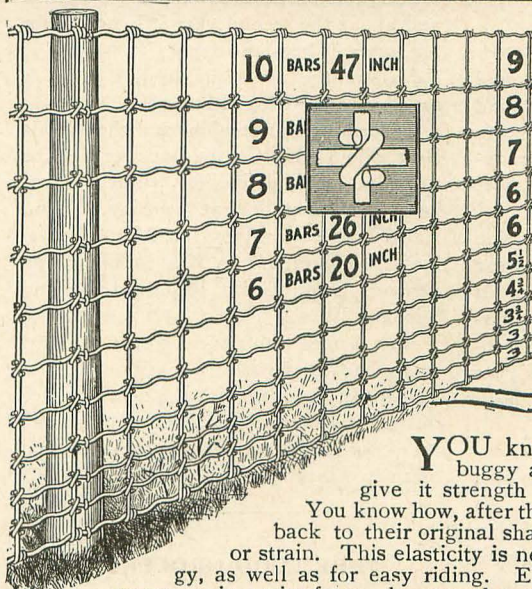
I like the plan of cultivation the best and have found very good results from following this cultivated season of the land with flax, putting the crop in without very deep discing and always without plowing. After the flax crop is off I plow the ground as deep as it has ever been plowed before and repeat the process of cultivation, this the third year, in order to clean the lower half of the furrow slice.



Heavy Close 4⁹/₁₆ in. Fence 24c Per Rod

Steel Farm Gates \$2.95 and up. Galvanized Barb Wire \$1.55 per spool. Our large catalogue of fences for every purpose, gates, fence tools and supplies with low direct from factory prices sent free to any address.
THE MASON FENCE CO.
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Elastic Tension



How It Adds Years to the Life of Farm Fences

YOU know why the springs on a buggy are bowed—don't you? To give it strength and elasticity—springiness. You know how, after the strain is released, they fly back to their original shape, ready for the next load or strain. This elasticity is necessary to the life of a buggy, as well as for easy riding. Elastic Tension is even more necessary in a wire fence—because the strains are more sudden; heat and cold contract and expand the wires, and if the fence does not give and take it soon becomes baggy, saggy, and goes down. That's why you see so much wire fencing sagged—it lacks the proper elastic tension. In

SQUARE DEAL FENCE

(The Kind That's ALWAYS Trim and Tight)

we have solved this important problem on the same principle as the buggy spring. Note the Wavy Strand Wires which form the "springs" in SQUARE DEAL Fence. These furnish the give and take caused by sudden strains, heat or cold. They are further strengthened, stiffened and supported by the one-piece Stay-Wires which go from top to bottom—making a fence that is unusually rigid, yet elastic enough to relieve the undue strains and thus prolong its life many years, at the same time keeping it always tight and trim. That's why SQUARE DEAL Fence lasts longer, is cheaper, looks better and gives such universal satisfaction.

Write for Catalog, Prices and Free Folding 2-ft. Rule

A postal brings all, postpaid, by return mail—also our nearest dealer's name. Send today, and get posted on the fence that ALWAYS STAYS tight and trim.

THE KEYSTONE STEEL & WIRE CO., 1017 Industrial St., PEORIA, ILL.

Among Our Advertisers

TOWERS' SYSTEM OF SURFACE CULTIVATION

J. D. Tower & Sons Co., 68th St., Mendota, Ill., have a very important announcement in our columns regarding their famous cultivator and their pulverizer. Every corn grower knows the ground should be plowed deep, then completely crushed to dust in a seed bed. The use of this cultivator, after planting, compared with sharp pointed shovels has proved the means of furnishing a much larger yield of corn, for the reason that none of the plant roots is disturbed, which causes better development of the grain.

The cultivator is of lighter draft and can be managed more easily by even a boy than many other styles of implements claiming favor. To know more about "Towers System of Surface Culture" which gives larger dividends to the land owner and pays the rent for the tenant, the reader should write to the above address, a postal card for free literature.

EIGHT MILLION PAIRS

Eight million pairs of rubber boots and shoes sounds merely like a big round figure until you stop a bit and try to imagine that number of feet. The gradual conception of this number is almost staggering.

Yet that is the number of people who bought "Ball-Band" Rubber Footwear last year, and because "Ball-Band" goods invariably give satisfaction, an even greater number of feet will probably be protected from wind, wet and cold this year by boots and arctics that bear the "Ball-Band" trade-mark.

"The Mishawaka Woolen Mfg. Company" seems a strange name for a concern that makes so much rubber footwear. As a matter of fact their business for many years was the manufacture of all knit wool boots and woolen stockings. In order to get rubber overs as good quality as the boots and socks they were making, they found out about fifteen years ago, that the best plan was to make the rubber shoe themselves.

That they made good rubber shoes is proven by the fact that today the rubber footwear branch of their industry has become the main feature, and while the "Ball-Band" Knit Boot and the "Ball-Band" or Mishawaka Socks are still the favored choice of thousands, the rubber end of their business easily outranks the woolen end.

Eight million pairs are quite a few.

HINGE DOOR AND LANSING SILO MANUFACTURERS JOIN HANDS

To take care of the stock and dairy-men's silage feeding requirements from start to finish is the object of the Woods Bros. Silo & Mfg. Co.—a new organization just perfected at Lincoln, Nebr.

It comprises the Nebraska Silo Co. of Nebr. and the Severance Tank and Silo Co. of Lansing, Mich.

The large malleable iron hinges of the door forms a perfect easy-climbing ladder which is a tremendous advantage for the farmer. He can let his ten-year old boy climb the Winged Door ladder and open doors with greatest safety.

On the door depends safety and convenience in everyday use—the good keeping of ensilage near the door, the preventing as far as possible of the freezing of silage in the winter and its drying out in the summer, and in general the life of the silo itself.

It is, indeed, fortunate that such an invaluable construction has been added to a wood stave silo, for, taking all things into consideration the wood stave has proved the most satisfactory of all silo building materials.

Contrasting the Hinged Door with the Loose Door we find that the ordinary life of the loose door is short at best. After being removed from the silo it is used for all conceivable purposes around the barnyard and about the second year it is not fit for use, or can't be found at all.

Half of the usual silo feeding labor is saved with the Hinged Door Silo.

In forming this combination the Woods Bros. Silo & Mfg. Co. did not overlook the value of quick deliveries. Branch offices have been installed at Lansing, Mich., E. St. Louis, Ill., Maryville, Mo., Topeka, Kans., Kexington, Ly., Minneapolis, Minn., Denver, Colo., Cedar Rapids, Iowa and Spokane, Wash.

Any farmer who desires to get the best to be had in the silo proposition will do well to get in touch with the nearest office of the above mentioned Company or write them for their catalog at their general office in Lincoln, Nebr.

PURE FOOD GROCERIES

Farmers! North Dakota has a Pure Food Wholesale Grocery Mail Order House. Do not send to far eastern points when you can buy pure goods cheaper in your home state.

During the past twelve years we have limited our mail order business to hotels and restaurants. Feeling that you are just as much entitled to the same opportunity we now extend the same privilege to you.

Do you realize that when you buy groceries from this house you have the protection of the North Dakota Pure Food Laws, which are the strictest in the

United States. When you send outside of this state you have no such protection.

You can buy goods from us not only cheaper, but you can also save on freight. This is a big saving in itself.

Now that we are extending this privilege to the farmers to buy from us at actual wholesale, we feel justified in asking you for your combined co-operation.

Having just received our Price List No. 4 G, from our printers we want you to send for a copy so you can compare our prices with those of any other mail order house. After comparing our prices and being convinced of the saving we can make for you, send us a trial order. This will relieve you of all doubts which you may have about our plan.

Address all requests for price lists to
FARMERS SUPPLY HOUSE,
Dept. D. FARGO, N. D.

AN ERROR THAT DID AN INJUSTICE. NOW CORRECTED

To whom it may concern:

In the 1912 Winnipeg Motor Contest of all classes, Steam, Gasoline, and Kerosene, the highest number of points scored was 457.85, and was made by Entry No. 27, Case 110-Horse Engine.

Due to a clerical error the published figures incorrectly gave this engine a score of 442.85 points, the error being in the Economy Brake Test, which should read 35 points instead of 15, as given.

We the undersigned judges of the 1912 Winnipeg Motor Contest make this announcement in order to correct an error which we greatly regret.

Yours truly,

L. W. CHASE A. C. FRITH
Engineer in Charge
A. R. GREIG M. L. KING

This recount not only gives the Case 110-H. P. Steam Engine the Gold Medal for scoring the highest number of points in its class but the Sweepstakes Honors over all others irrespective of class.

THE BLUE RIBBON INCUBATOR

This is the first opportunity I have had to run an advertisement in this paper. The Blue-Ribbon Incubator Company of Fargo, N. D., is the manufacturer of one of the best incubators and brooders, and poultry supplies. They have an interesting announcement to poultry raisers in this paper. It concerns a new standing Incubator, which is equipped with the best heating and ventilating system in my knowledge and experience, and is constructed with the best obtainable materials.

It is simply the result of accumulated experience of all the years I have been

manufacturing incubators and raising poultry. Every bit of material in it has been tested and proved to be the right kind for the purpose used. My new book is well worth reading whether you have an incubator or not, or whether you are planning to buy an incubator or not. Every reader is urged to send a postal card NOW to C. H. Ahrens, Fargo, N. D. and I will be glad to mail a copy of his "Blue-Ribbon Book" by return mail.

A NORTHWESTERN SEED AND NURSERY HOUSE

Among the most enterprising seed and nursery houses of the Northwest is the Gurney Seed and Nursery Company, of Yankton, S. D. The stability of the institution is evidenced by the fact that three generations are connected with the firm, the second and third having grown up with the business.

It has been the policy of this company for several seasons past to offer prizes at state fairs for products grown from Gurney seeds, and this will be continued the present year.

Since the inauguration of the Parcel Post the company is able to deliver to the very door of the customer packages weighing less than 11 pounds at very low rates, and many will take advantage of this cheap and handy method of transportation.

The fact that no seed is allowed to leave their possession without the same thorough test as they would use for their own planting, that the greatest care is taken that every seed is true to type, that full measure is always guaranteed, that the safe arrival of goods is assured, and that all goods are sold on so close a margin that cash with order or one-third cash and balance c. o. d. is required, is evidence that a square deal may be expected by all who favor the Gurney Seed and Nursery company with an order.

The catalog issued by this company should be in the hands of every farmer. Simply address a postal to the Gurney Seed and Nursery Company, Box 11, Yankton, S. D.

READING NOTICE

The Hatching Eggs and Breeding Stock I am offering for sale are from the best blood in America. Cheviott, Sheffield, Pennington, Hess, Keelre, Fishill, Thompson, Hadaway, Etc. O. A. Barton, Valley City.

Sutton & Aherin have furnished seed for many winners at corn contests. Their seed corn is thoroughly acclimated, is all steam dried and is carefully stored. Send for their pamphlet.

At the recent poultry show held at Lisbon, Carl Fleming captured several of the choicest prizes. As he states in his advertisement, he has some of the "choicest."

There is an excellent little treatise on "Motor Car Anatomy" which will interest every one who contemplates the purchase of an auto the coming season. It is sent free upon request by the Lambert Automobile Company, of Detroit, Michigan.

E. A. Tow, who for eleven years has bred the highest grades of hens, turkeys and guineas, has some special strains of poultry to offer. A postal will bring you information.

The Northwest Nursery Company, Valley City, N. D., is desirous of obtaining local representatives. If desiring employment, write this company today. They are reliable, they are hustlers, they are doing the business.

The corn advertised by the Lisbon Corn Company, Minnesota 13, is fast coming into popular favor on account of its early maturing. Plant only thoroly tested seeds.

Among those advertisers who have been with this paper ever since its founding is the Fargo Seed House. Our readers must have been well treated by that firm. They certainly deserve the patronage they have received.

Why not have a few sheep? They will do wonders in clearing the land of weeds. There are a few places in the state where high grade rams may be had. Forrester H. Smith, Amenia, N. D., can supply your wants. Write him.

No expenditure one can make about the home will bring greater proportionate satisfaction and also increase property values more than a little money rightly spent for fruits or ornamentals. Strand's Nursery, Box 32, Taylors Falls, Minn., issue a little booklet and catalog that should be in the hands of every planter.

The friends of Northwestern Dent may rest assured that they will receive fair treatment at the hands of W. E. Chisman, of Lisbon, N. D., who has a supply of choice seed grown in this state. The supply is limited and an early order will avoid disappointment.

We would call the attention of bird fanciers to the advertisement of Karl Thomte, whose birds carried away so

many ribbons at the state poultry show held last January at Fargo. His specialty, the Rose Comb Rhode Island Reds, have been doing wonders the present season. If interested, you will do well to investigate.

ENTERPRISE POULTRY YARD

E. W. Wilson, of LaMoure, N. D., one of our new poultry advertisers has mated this season for his customers and for his own benefit a strain superior to anything he has ever had. The mark of quality is stamped on every bird in these select matings, and if you could see for yourself the splendid uniform type and character of fine color in each bird he is now breeding, he believes you would say that no other breeder is giving more actual value to customers than the Enterprise Poultry Yard. It has been one of his rules to keep every bird on the place that will make its matings average higher from year to year—

(Continued on Page 24, Col. 1).

FOR SALE--Marquis Seed Wheat

Sample and price on application

H. G. WILSON

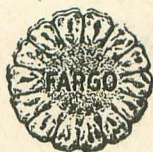
Box 15, Indian Head, Saskatchewan

North Dakota has a Wholesale Grocery Mail Order House, See Page .

20 Reasons Why You Should Investigate the **SANDOW** Kerosene Stationary ENGINE



It runs on kerosene (cost oil), gasoline, alcohol or distillate without change of equipment—starts without cranking—runs in either direction—throttle governed—hopper cooled—speed controlled while running—no cams—no valves—no gears—no sprockets—only three moving parts—portable—light weight—great power—starts easily at 40 degrees below zero—complete, ready to run—children operate them—5-year iron-clad guarantee—15-day money-back trial. Sizes 2 to 20 H. P. Send a postal today for free catalog, which shows how Sandow will be useful to you. Our special advertising proposition saves you one-half cost of first engine sold in your county. (167) Detroit Motor Car Supply Co. 168 Canton Ave., Detroit, Mich.



NORTH
DAKOTA
GROWN

SEED CORN

KILN DRIED,
SELECTED
AND TESTED

The best Seed corn we have ever offered. It pays to plant the best and that is what you get when you buy from us. Order today—the supply is limited. We have a good stock of very high grade Canadian Marquis Wheat.

Alfalfa, Clover, Timothy and grass seeds are cheaper this year, and our stock is of the very highest test and will prove their worth when harvest time comes. Your order should not be delayed if you want good seed. Send today for our 1913 catalog, free

Fargo Seed House

Dealers in strictly high-grade seeds.

FARGO

NORTH DAKOTA

North Dakota Farmer

Entered as second class matter in the postoffice at
Lisbon, North Dakota.

PUBLISHED EVERY MONTH

W. G. CROCKER, PUBLISHER
Lisbon, N. D.

E. F. Ladd, Editor FARGO, N. D.

BUSINESS MANAGEMENT, LISBON, N. D.

ASSOCIATE EDITORS

PROF. J. H. SHEPPERD, State Farm Notes.

PROF. W. B. RICHARDS, Livestock.

**PROF. C. B. WALDRON, Fruits, Forestry,
Insect pests.**

GEO. HAUSMANN, Poultry.

Remittances should be made by Draft, Post-
office Order or Express Order.

All Articles and Editorial Matter should be
addressed to E. F. Ladd, Fargo, N. D.

Address all business correspondence to the
Lisbon office.

Vol. 14 FEBRUARY, 1913 No. 8

Encourage the boys to enter the hog-raising contest this spring. Entries must be made before the tenth of next month. Read carefully the conditions, which may be found on another page.

If you have used the seed from the same stock of potatoes for several years, it would pay to purchase some new seed stock. It need not be a different variety. Often such a change increases the yield from 20 to 80 bushels an acre.

Why not pay off the boy or girl in livestock? They have earned by their toil on the farm a start in that line. Livestock in the hands of the children will act as a loadstone to attract them to the farm home. If the children are kept on the farm, there will be an end to the cry, "Back to the farm!"

No person, whether a user of tobacco or not, can look upon the boy addicted to the snuff habit without a shudder. The pale face, the watery eye, the lifeless gait, the stunted growth—all point to the wad of life-sapping snuff concealed behind the under lip. There is no excuse for its use. Better action now than a terrible awakening later to its ravages.

There are too many farmers that know just enough about farming, apparently, to destroy fertility. Destroying fertility is not only a mistake but it is wrong sinful. Every farmer should aim to leave the farm he cultivates as good or better than he found it. It will pay him here and hereafter. No part of this earth was made for any one man.

We believe the Government should make appropriations for public roads. The first appropriation should be made for

the R. F. D. routes. If this appropriation should be partly in the shape of a reward for good road construction, there would be given the local authorities an incentive for excellent work. Of course the government should provide proper supervision in the construction of these government roads.

At this writing the Student Special is making its first trip over the state. The fact that the entire train is in the hands of the students, including engineer, fireman, cook, demonstrators, and exhibit, attracts crowds at every station, and hundreds are turned away from the exhibitions given at the towns favored with a long stay. No more graphic demonstration of the practical work done at the Agricultural College could be made.

Never have we been able to make such attractive offers as may be found on pages 8 and 32. Every one of the magazines offered is standard, and whether your subscription is out or not, you should take advantage of the offers, for your subscription may be extended from the date of expiration. "Have more papers now than I can read," is a pretty good excuse for not subscribing for more, **provided** your own state paper is one of those now taken. **"You need the North Dakota Farmer needs you."**

We would call the attention of our readers to the help they may obtain from the Agricultural College in the shape of "package libraries." Those who wish information on any subject, whether for debate, essay, building, shipping, or study should simply write the N. D. A. C., provided the writer is a resident of this state. A package will be prepared that just suits the case in hand. We consider this aid second to none rendered by that institution. Too few people realize its advantages.

During the past winter many excursions have been made to Washington by winners at state corn contests. One young man, the pride of this state, blew out the gas while at Washington, and thereby lost his life. It has been suggested that a monument be erected in the young man's memory, but we would suggest that one be erected as a warning to those teachers who fail to give lessons on the effect of blowing out gas, descending into a poison-infected well and filling an empty heated boiler.

Is it not about time for farmers also to

become teachers? While so many of the country's interests are engaged in teaching farmers how to raise an er crops, would it not be in order for farmers to teach them how to conduct their business so that farmers will get their proportionate share of the wealth they (the farmers) create? This thing of treating the farmer as tho he were a mere pupil may be all right, but should it not stimulate the farmer also to become something of a teacher himself? Turn about is fair play.

Every farmer in the state should have in his possession the report of the state demonstration farms. It is a veritable dictionary of practical farming, for it is simply the report of actual work of farmers under the direction of the superintendent, W. R. Porter and his assistant, E. W. Hall. The greatest lesson to be learned is that by means of proper rotation and cultivation demonstration plots yield far more than adjacent land of the same character and under precisely the same climatic conditions.

When the number of cattle per one hundred inhabitants drops in ten years from 90 to 68, it is not very difficult to explain the rise in price of beef. We consume almost all the foodstuffs we raise. We need more intensive farming. We know enough about agriculture. What we want is more "show me" methods. The Better Farming movement has led the way. Now let the Government take hold (and the Lever Bill will do the business) and put practical demonstrators into every county. If these demonstrators increase the yield but 20%, the gain in one year on our nine-billion dollar crop would pay for such work many generations. Boost the Lever Bill.

There is a big leak somewhere between the farmer and the ultimate consumer. Who will help to plug it up? The average farmer is getting just enough for his products to keep him in the business of production while the consumer is required to pay about all his wages will permit and his family not become wholly despondent. Somebody seems to have the power to make for himself a mighty comfortable place squarely between the producer and consumer and without much investment, risk or work live better than either, because he lives off both. Why don't they drive him out and compel him to produce instead of absorb?

UNSOLICITED

North Dakota Farmer:

Pretty good little journal you get out. Good paper stock so improves the appearance. It gives it a character that the cheap-looking ones, no matter how well edited, do not have.

PAUL E. JOHNSON.

Thank you. A generation ago "Anything is good enough for a farmer;" but now "No one appreciates the best more than the up-to-date farmer." (Publisher)

Pure Food Advertisers

The products advertised below are in compliance with the pure food law of North Dakota and of the highest grade
ASK YOUR GROCER FOR THEM.

"BUY"

"EAT"

HOME BRAND

Pure Food Products

"ECONOMY" "SATISFACTION"

Griggs, Cooper & Co.

MANUFACTURING
WHOLESALE
GROCERS,

ST. PAUL, MINN.

Main Offices:
CORNER THIRD AND BROADWAY

DR. PRICE'S
JELLY

DESSERT
NUTRITIOUS-WHOLESOME

One package, 10 cents, makes one pint of wholesome Fruit Jelly. All flavors from true fruits.

The Purest of Pure Food Products

are packed under the Brands of

Nokomis
PURE FOODS

Hiawatha
PURE FOODS

Blue Bird
PURE FOODS

Wampum
PURE FOODS

Stone-Ordean-Wells Company
DULUTH, MINN.

BRANCH HOUSES-Minot, Bismarck, N. D. Billings, Bozeman,
Butte, Great Falls, Mont.

MONARCH BRAND



FOOD PRODUCTS

A GUARANTY OF PURITY. A WELCOME GUEST at every table where the HOUSEWIFE demands the BEST. THE MONARCH LABEL insures QUALITY in Coffee, Catsup, Pickles, Maple Syrup, Canned Goods or any article bearing the MONARCH BRAND of REID MURDOCH & CO CHICAGO

ANOTHER PURE FOOD PRODUCT

CEREKOTA

Self-Rising

Pancake Flour

Is a Scientific Preparation of Healthful Appetizing Ingredients and the Best Flour Milled in North Dakota

GUARANTEED Pure and Wholesome

Ask Your Grocer for a Trial Package

Bemmels Milling Company

Sole Manufacturers

Lisbon,

North Dakota

Livestock Department

FARM AND STOCK NOTES N. J. Shepherd

Bran and linseed meal are good grains for ewes.

A deep capacious body is a desirable feature in a dairy cow.

The dryer the butter is made the better it will keep.

The average farmer should buy as little and sell as little feed as possible.

The earnings of a cow are simply dividends or interest on so much invested.

Wheat bran and linseed meal make the best combination to give a freshening cow.

In selling milk and its products the farmer takes very little fertility from his farm.

The health of a horse depends to a great extent upon the cleanly condition of his skin.

The way to make the most out of a cow is to keep her in a good thrifty condition.

We know what a cow is worth by learning the per cent of butterfat in her milk.

Because an animal has a pedigree is no assurance that it is capable of producing a large amount of milk.

The milk-giving quality may be developed if it is inherited, but otherwise there is little show of profit.

The dairy cow is a source of large regular and sure profits, a conservator and restorer of soil fertility and builder of homes.

It is the solids that are in a hundred pounds of milk that gives it value instead of quarts that have an uncertain value.

Other things being equal that farmer is going to make the most money whose products are most nearly what the market calls for.

When pig is only holding his own he is losing money, for the feed consumed to maintain life and prevent loss in condition is a total loss.

There are two lines of work possible for the farmer to follow which bring cash returns once or twice a week. These are dairying and egg-production.

Butter production where the waste milk is consumed on the farm robs the soil of fewer of the elements of plant growth than the producing of any other crop.

To ascertain whether the action is true and straight, stand behind the horse as he walks and trots away from you. You cannot ascertain this important point by standing on the side.

High class butter is not due entirely to the excellence of the cow but to the intelligence and management of the dairyman who attends and looks after all of the

details necessary to produce a superior product.

Of two colts similar in disposition and sense, one will develop into a steady reliable and valuable horse, while the other will be everything that is vicious, treacherous and unsafe, all because of the difference in the men who handled them.

There is a certain amount which may vary under different circumstances, which a horse can eat and which will sustain him and keep him in a good healthy condition. Any more than this is just as injurious as anything less and it is just as much of a punishment to feed more as it is to feed less.

CONCRETE WIND-BREAK FENCES Safe Exercise-Lots for Farm and Dairy Stock

To be healthy and profitable, livestock need exercise—in winter as well as in summer. Formerly stockmen and dairymen used high stone fences and dense hedges to

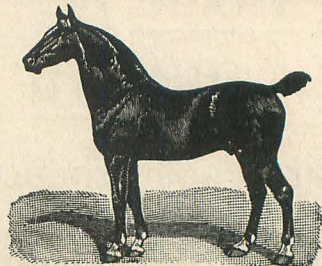
SEED CORN GUARANTEED

Grown in the north and suited to North Dakota soil and climate. Sold on a money-back guarantee. Write us for particulars.

THE FARMERS' CORPORATION
DASSEL, MINN.

Warranted to Give Satisfaction.

Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hook, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

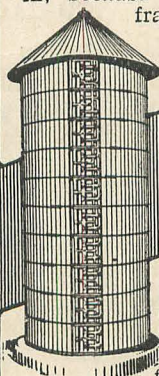
As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

This Famous Door Makes Silage Feeding Easy

The most important part of a silo is the door. On it depends your convenience and safety in every day use. That's why no silo on earth can compare with the Hinge Door Silo for genuine satisfactory service. Think of the convenience of keeping your silo doors closed air-tight the year around. Protects your silage from freezing in winter and drying out in summer. The Hinge Doors can be opened and closed with one arm easier than your barn doors. Doors can't bind, sag, stick or freeze in, because they set against the door frame instead of into it.

Write for book
about



Malleable iron ladder formed by the big hinges makes the safest ladder ever put on any silo. 7-inches for hand and foot hold; all steel door frame—heavy Billet steel hoops—staves of first clear lumber—tongued and grooved full 3/4 inch—weatherproof steel spline—strong anchors base.

Lansing Silos

The far-famed silo manufactured in Lansing, Mich., now sold exclusively by us with

WOODS BROS. SILO & MFG. COMPANY
LINCOLN, NEBRASKA

Successors to Nebraska Silo Co., Lincoln, Neb., and Severance Tank & Silo, Co. Lansing, Mich.
Branches: Lansing, Mich., Maryville, Mo., Minneapolis, Minn., Cedar Rapids, Ia., East St. Louis, Ill., Topeka, Kan., Lexington, Ky., Denver, Colo., Spokane, Wash.
NOW—Write Dept. 8, Nearest Office.



many improvements in its construction. With the exception of the door feature it has practically the same high grade construction we have incorporated into the Hinge Door Silo.

Your choice of two famous silos. You will be overlooking your best interests if you don't write us at once for full facts.

Silberzahn Silage Cutter

Sold exclusively by us, west of the Mississippi river. Many valuable improvements this year. Cuts any kind of forage. All facts clearly told in our catalog.

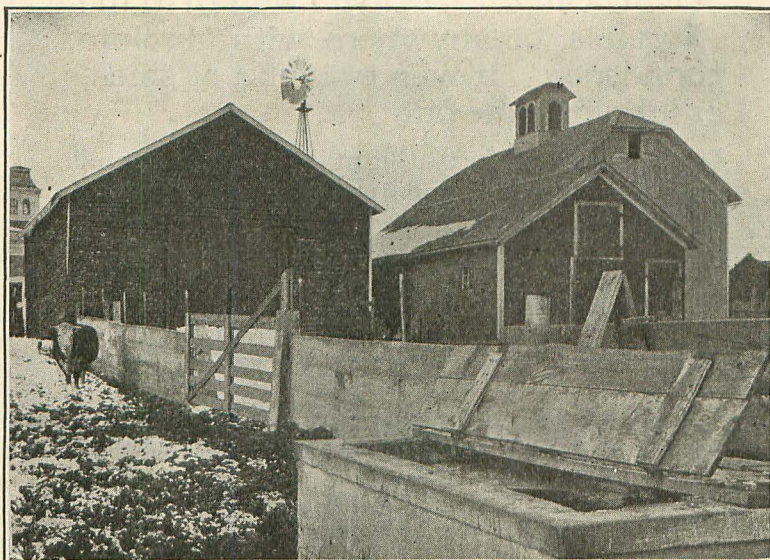
shield their exercise-lots from wintry blasts. Since such wind-walls have objectionable features, and are also not everywhere possible, many farmers are now building their wind-breaks of concrete.

Begin constructing the wind-break on that side of the exercise-lot from which the winter winds most often blow. A very convenient way to build the wall is in panel sections 12 feet long, 6 feet high and 6 inches thick, with a foundation 1 foot thick and extending 3 feet into the ground. Supporting one end of this panel, and built at the same time, is a large

Dig the hole 12 inches square and 4 feet deep. Set up the post form, plumb it carefully with a carpenter's level and fill with mushy wet concrete. Proportion the concrete 1 bag of Portland cement to 4 cubic feet of pit gravel, or 1 bag of cement to 2 cubic feet of sand and 4 cubic feet of crushed rock. Reinforce the post, one and one-half inches from each corner, with a three-eighths-inch rod 9 feet long. Wire these rods securely together, diagonally, near the top. Remember to insert the short lengths of rods which tie the post to the next panel. In warm weather the

trench. Fill them with concrete and immediately set up the post and panel forms with the latter butting against the last-made concrete post. Reinforce the post as before and also the panel, 3 inches from the top and the bottom and halfway up the wall, with two three-eighths-inch bars equally spaced from each other and the sides of the form. Labor of lifting the concrete can be lightened by slipping the boards in place on one side of the panel form as they are needed. Build section after section until the wind-break is completed. Keep animals away from the wind-break until it is two weeks old.

For one section of panel and post, 12 feet 9 inches over all, there will be required (Continued on Page 21.)



Showing Uses of Portland Cement in Constructing Wind-break Fences and Watering Troughs

concrete post 1 foot square, 6 feet above ground and 4 feet below. The other end of the panel is keyed into the mortise in a similar large post molded at the previous operation, as shown in drawing below.

The forms for the panel are simply two independent walls of 1-inch siding on 2 by 4-inch uprights 6 feet in length and spaced 2 feet apart. The model for the post is merely a 6-foot box 12 inches square on the inside and open on one face and both ends. It is made of 2-inch lumber. The open side butts against the end 2 by 4 uprights of the panel forms. To the inside of the board opposite this open face is nailed the wedge-shaped timber which forms the mortise lengthwise the post into which the next panel is keyed. For this wedge-shaped timber use a 3 by 4 (or a builtup piece) with the 4-inch dimension nailed to the form and the sides beveled to produce a 3-inch face. Thru this beveled piece, 3 inches from the top and bottom, bore two five-eighths-inch holes in which 2-foot lengths of three-eighths-inch rods are placed and allowed to project 1 foot into the next panel.

Using the post mold only, build the end or corner post of the wind-break and, if necessary, make an extra mortise in it.

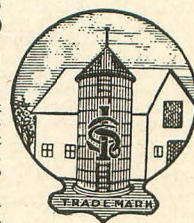
post form (as well as that for the panel) may be removed in three days. Then dig the next 4-foot post hole and 3-foot panel

SILOS

From Factory to Farm

Our Silos made of best material. Shipped on approval. Don't accept it if not exactly as represented. Buy direct and save \$25 to \$75 on the cost of your Silo. Postal card brings free catalog and price list. Write today.

INDEPENDENT SILO CO.,
279 Endicott Bldg., St. Paul, Minn.



BIG MONEY in the OFF SEASON

One Man can run it.

Earn \$2000.00 a year extra money, besides your regular farm work, with the

Improved Powers Boring and Drilling Machine. Bores a well 100 ft. deep in 10 hours. One man can run it; a team operates it and easily moves it over any road. Bores everything except hard rock, and it drills that. No tower or staking; rotates its own drill. Easy terms; write for catalog.

Lisle Mfg. Co.
Box 540 Clarinda, Iowa.

SEED CORN FOR SALE 300 Bushels of Northwestern Dent, and Ransom County Yellow Dent. Grown and Matured here in Ransom County. The kind you must plant, if you want to get Ripe Corn. Address

W. E. CHISMAN

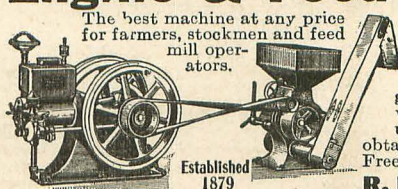
LISBON, N. D.

W. F. JACOBS Livestock Auctioneer

Thoroughly Posted on Pedigress

Terms Reasonable LISBON, N. D. Write for dates

Engine & Feed Grinding Outfit



THE HOWELL ROLLER FEED MILLS have been wonderfully successful everywhere. They wear a life time, grind twice as fast with the same power as the best burr or stone mill made. Good money in custom grinding. Grinds Graham and Rye Flour as well as feed. Engine is of latest and most up-to-date design. Runs at proper speed to obtain best grinding results. Simple and Durable. Free Catalog D3 tells everything.

R. R. HOWELL & CO., Minneapolis, Minn.

Purebred Registered
HOLSTEIN CATTLE
 The Greatest Dairy Breed
 Send for FREE Illustrated Book
 Holstein-Friesian Assn., Box 135 Brattleboro, Vt

SHROPSHIRE RAMS

I have forty-five thoroughbred Shropshire rams for sale. Coming two and three years old. Prices right. Call and see what I have to offer or write.

FORRESTER H. SMITH

Amenia - - North Dakota

CLASSIFIED ADS.

One Cent a Word

Small advertisements will be classified under appropriate headings at the low price of one cent a word for each insertion. Cash must accompany all orders. Each initial or number must count as one word. TRY IT HERE.

LIVE STOCK

CATTLE

Registered Jersey Bull "Hebrons Majesty" No. 99769 for sale. Two years old royally bred and a show type. Intended for my herd bull, and last of eleven sold since summer and best; \$150 is really no price for him, but all gone but few heifer calves and it's your opportunity. P. E. JOHNSON, 411 Palace Building, Minneapolis, Minnesota.

FOR SALE

GALLOWAY CATTLE

J. W. & F. T. PETERSON, Litchfield, Minn

FOR SALE: Registered Jerseys. Bull calves and one mature Bull at reasonable prices. W. G. Weeks, Backoo, N. Dak.

HOLSTEIN CALVES FOR SALE: High grades of either sex, crated and express prepaid to you for only \$17.50 each. Guernsey or Holstein grade cows furnished in car lots.

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POLAND CHINA PIGS, also Shropshire sheep. Seed grain. GEO. N. SMITH, Amenla, N. D.

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Envilla Stock Farm, Cogswell N. D. will quote you special prices on Angus Cattle, Shetland Ponies, Duroc Jersey Hogs, Wolfand Fox Hounds, Pure Bred Poultry, Pet Stock. Write them.

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FOR SALE. Creamery in first class condition at a bargain at Crystal, N. D. For further information write to J. S. GESTSON, Sec. CRYSTAL, N. D.

MRS. FARMER:

Have your Husband write for our Free Literature on choice Northern Minnesota Lands, near Duluth. Land Commissioner, D. & I. R., R. R. 344 Wolvin Bldg., Duluth, Minn.

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YOU can use a *Rayo Lantern* in the stable or anywhere with absolute confidence. It won't smoke, or smell, or leak, or blow out.

It gives a clear, bright light. It is strong and durable. It will stand hard usage. Easy to light. Easy to clean and rewick.

At Dealers Everywhere

STANDARD OIL COMPANY

(An Indiana Corporation)

ST. PAUL UNION STOCKYARDS COMPANY, SOUTH ST. PAUL, MINN. Comparison of Receipts and Shipments of Livestock for January

	Receipts					
	Railroads	Cattle	Calves	Hogs	Sheep	Horses
C. R. I. & P.....	660	238	2414	313	.....	65
C. G. W.....	900	212	6707	329	103	137
C. M. & St. P.....	3564	923	19068	3747	20	448
M. & St. L.....	2139	455	14505	979	.....	296
C., St. P., M. & O..	3397	672	24998	3059	126	527
C. B. & Q.....	158	19	3250	459	.....	53
M. St. P. P. & S. S. M	2931	1203	9974	2075	.....	274
Gt. Nor.....	5539	2759	26325	10453	23	678
Nor. Pac.....	3505	702	7491	12649	41	286
St. P. B. & T.....	.....	.....	.....	.....	.....	.....
Driven In.....	612	99	521	276	27	.....
Total.....	23405	7282	115253	34339	340	2764
Increase.....	3075	685	.....	.....	.....	.....
Decrease.....	.....	.....	29693	2422	86	107
Jan. 1 to date.....	.....	.....	.....	.....	.....	.....
Increase over 1912	.....	.....	.....	.....	.....	.....
Decrease.....	.....	.....	.....	.....	.....	.....
Average Wts.....	826	174	228	96	.....	.....
	Shipments					
C. R. I. & P.....	1514	1	36	.....	6	49
C. G. W.....	2475	113	103	186	1	86
C. M. & St. P.....	3193	92	14300	1932	24	255
M. & St. L.....	815	.....	.....	.....	22	27
C., St. P., M. & O..	3476	708	2678	1805	94	163
C. B. & Q.....	651	8	10583	9189	.....	152
M. St. P. & S. S. M..	327	61	.....	3553	24	34
Gt. Nor.....	500	69	.....	1374	93	31
Nor. Pac.....	389	2	.....	345	9	17
St. P. B. & T.....	.....	.....	.....	.....	.....	.....
Driven Out.....	550	174	73	366	.....	.....
Total.....	13890	1228	2773	18751	273	814
Increase over 1912	5666	.....	.....	.....	.....	110
Decrease.....	.....	15	8817	1883	161	.....
Jan. 1 to date.....	.....	.....	.....	.....	.....	.....
Increase.....	.....	.....	.....	.....	.....	.....
Decrease.....	.....	.....	.....	.....	.....	.....

5 barrels of Portland cement, one and one-half cubic yards of sand, 3 cubic yards of crushed rock and 10 pieces of three-eighth-inch by 12-foot steel reinforcement bars. The usual cost of these materials is \$12.00

Dairymen find that an exercise-lot, enclosed by a concrete wind-break, largely increases the milk yield of their dairy cows. Such a paddock ensures a safe and secluded enclosure for bulls and stallions. Paved with concrete, it is an ideal feed lot where not a particle of grain or manure need be wasted. The same general plan is adaptable to building ornamental garden walls.

FEDERAL INSPECTION OF DAIRY PRODUCTS NECESSARY

Dr. A. D. Melvin, Chief of the Bureau of Animal Industry, Department of Agriculture, recently made the statement that there is need of inspecting dairy products, especially cream and butter, and supervising their shipment. Even without inspection many creameries, he said, maintain a good standard of sanitation and produce high-grade, wholesome butter, but this can not be said of creameries in general. Cream is frequently shipped great distances to creameries to be made into butter and is often received in such a filthy and putrid state as to be thoroly unfit to enter into the composition of a food product. Investigations have shown that 61% out of 1,554 lots of cream received at creameries and buying stations was of third grade—that is, dirty, decomposed, or very sour; that 94.5 per cent of 715 creameries, investigated were insanitary to a greater or less degree; and that 72.6 per cent of these creameries did not pasteurize the milk so as to destroy any disease germs that might be present. As disease-producing germs are known to survive for long periods in butter made from unpasteurized cream, and as butter is eaten in the raw state, this product when made under such conditions as prevail in the majority of creameries can not be said to be wholesome and free from danger to

human health. Dr. Melvin believes that a proper law, well enforced, would remove nearly all of the bad conditions now existing. A Federal law would, in his opinion, of course apply only to products made for interstate or export shipment or to establishments engaged in interstate or foreign commerce.

\$1 SNAPS IN FRUIT TREES

- 12 Budded Cherry Trees \$1
- 16 Grafted Apple Trees \$1
- 40 Concord Grape Vines \$1

We raise hardy varieties for the north and northwest. Our catalog tells you how to plant and care for trees. It is free for the asking.

DEPT. 9 BENSON OMAHA NURSERY
Benson, Nebraska

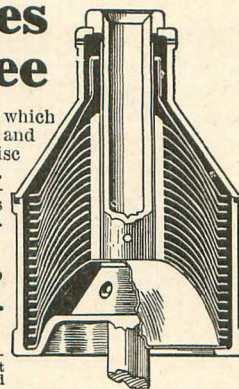
The Largest Cream Separator Factory In The World Offers The Greatest Features and Greatest Guarantee

The Iowa Discs This feature in particular is the one which enables the Iowa to offer to farmers and dairymen much wider range of use, hence more profit. Our curved disc bowl will skim milk perfectly at a temperature of 70 degrees and under. It has skimmed 46 degree milk to a trace, and works to its full rated capacity. It gets more butterfat under easier working conditions, it runs easily, is easily cleaned, is most durable—these are all proven claims.

**Butterfat
Is Money
The IOWA Gets
All Of It**

**Learn All About
The "IOWA'S"
Special Features in Our
Free Catalog**

Read every word of this interesting book—then look the machine over at the nearest dealer's. We will tell you where to find him if you don't know.



Iowa Dairy Separator Co.

N. W. Branch, 538 N. Y. Life Bldg., Minneapolis, Minn.

ST. PAUL UNION STOCKYARDS COMPANY SOUTH ST. PAUL, MINN. Comparison of the Origin and Disposition of Livestock for January

Origin of Livestock Received						
States	Cattle	Calves	Hogs	Sheep	Horses	Total Cars
Minnesota.....	17472	6348	88746	9559	63	2033
Wisconsin.....	1749	569	12124	1525	.....	243
Iowa.....	144	2	491	.....	137	22
Far South.....	.....	.....	.....	.....	79	3
South Dakota.....	565	70	4724	1244	20	101
North Dakota....	3048	289	9168	5430	41	278
Montana.....	397	4	.....	16580	.....	83
Far West.....	.....	.....	.....	.....	.....	.....
Manitoba & N.W.T.	.....	.....	.....	.....	.....	.....
Far East.....	.....	.....	.....	.....	.....	.....
Returned.....	30	.....	.....	.....	.....	1
Totals.....	23405	7282	115253	34338	340	2764
Disposition of Livestock						
So. St. Paul P'k'rs.	9616	5865	87180	12782	.....	.....
City & State Butch	699	139	1235	721	.....	44
Outside Packers...	.....	633	25710	466	.....	233
Minnesota.....	3658	380	760	2523	82	146
Wisconsin.....	848	18	.....	860	73	44
Iowa.....	3927	6	.....	322	.....	124
Nebraska.....	53	1	.....	.....	.....	2
Kansas & Missouri.	.....	.....	.....	.....	1	1
South Dakota.....	2034	6	.....	101	.....	59
North Dakota....	61	.....	.....	88	19	5
Montana & West..	317	5	.....	.....	16	11
Far South.....	27	.....	.....	.....	.....	1
Manitoba & N.W.T.	9	1	.....	200	23	3
Mich & E. Can....	.....	.....	.....	.....	.....	.....
Chicago.....	856	10	68	13216	38	86
Ills. (ex Chicago)..	1401	29	.....	254	21	55
Eastern Points....
Returned.....
Totals.....	13890	1228	2773	18751	273	814

25 Beautiful Gold

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MODERN FARMER

Eldon, - - - - - Missouri

Oxford Down RAMS

A Few Choice Ones
FOR SALE

Willobank Farm

EASTGATE BROS.

LARIMORE, N. D.

Poultry Department

LEAKS IN THE POULTRY BUSINESS

Mrs. B. F. Wilcoxon, North Platte, Neb.

Dig deep into the cause of not getting eggs in winter; then fight it—that's the only way.

The only way to fight a human ailment is to begin at the bottom—the cause. Isn't that logical? Isn't that common-sense? The failure of many concerns can be traced to little leaks.

It is hard to convince the average producer of eggs of the evil features of the present system of marketing eggs. In many farm districts they have formed egg clubs for the purpose of disposing of their eggs to the very best advantages.

The American people are coming to a new stage in economic development. Twenty years ago we had all the room we needed; today we rub elbows; we touch shoulders with our neighbors; we have to walk together. Twenty years ago we skimmed the cream from our mines and forest; today we are going back over these places and gathering up the pieces we refused to touch before.

The character of the age is to organize; to work together. We have to save to reduce our standard of living, if we hope to cope with conditions existing at the present time. A co-operative egg-selling organization is not unlike any other organization. It must be kept in mind that the average flock of poultry on the farm does not as yet command much interest from the farmer. (This would be a good paying business proposition for the farmers' wives and daughters; and is not looked upon as a business proposition.) The farmers' interest in poultry must be aroused. They will have to see the advantages of the better methods of selling their poultry products.

About two-thirds of the producers of our market-eggs are either indifferent or

disinterested. So far as business management is concerned, loss is due largely to carelessness and can be prevented.

What the public wants is guaranteed fresh eggs marketed in an attractive form. Few farmers, however take advantage of this want and consequently do not receive the price for their product that they otherwise would, if they took more pains to cater to the public demand. It is so with dressed poultry. Co-operation is a most worthy undertaking.

THE HEN-HOUSE FOR HENS

Robert A. Harrison, David City, Nebr.

Is the hen-house for man or for fowls? Is the first aim in building a house to satisfy the taste of the owner or to provide for the nature of the laying hen?

In reply to these questions I wish to set forth a few facts. The first consideration in building a house for laying hens is to meet the demands of the laws which govern the physical nature of the occupants. Among these demands may be mentioned sanitation, exercise, warmth, privacy, convenience. The second consideration

is to provide for the owner's economy (in time, labor, and material) also convenience (in feeding, cleaning, and gathering eggs.)

There are four general physical habits of the laying hen. She scratches, feeds, lays, and roosts. Therefore she should have rooms for scratching, feeding, laying, and roosting.

There are four general characteristics of the laying hen to be considered. She is affected by the weather, she is easily excited, she chooses privacy, and selects the highest point in the house to roost. Therefore she should have a house to meet the changing conditions of weather (cold, heat, darkness, and light). Also the house should furnish a retreat, privacy, and the highest point for roosting.

I can show best how all these considerations are met by mentioning a house which I built in my yard back at the parsonage in David City, Nebraska. The house has met every requirement, and has tested one hundred per cent efficiency in egg-production.

To provide for a surplus of 29 pullets of a flock of 38, April 30th hatch, I built a house 6 by 8 feet, ground floor, at an expense of twelve dollars for material. The first floor was put one foot below the surface of the ground. Then above are the feeding, laying, and roosting floors, respectively. Windows are set at half-angle to catch the direct light and heat rays of the sun for the scratching and feeding floors. The cloth ventilation is placed

ENTERPRISE POULTRY YARDS

BARRED ROCKS OF QUALITY

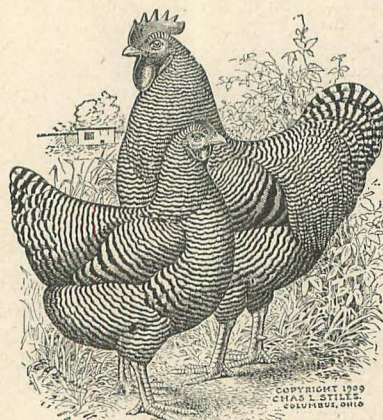
I am now offering for sale 27 cockerels from

\$2.00 to \$15.00

These birds are top notchers, bred from the best stock, and grandsired by "Masterpiece," the \$500 bird. 25 percent discount to members of the Poultry Association.

Mating catalog for 1913 now out. A postal will get it.

EGGS FOR HATCHING



E. W. WILSON

LAMOURE, N. DAK.

DAKOTA WELDING & MFG. COMPANY

Large Welding Plant and Machine Shop

Expert welders and machinists of ALUMINUM gear and crank cases; manifolds and housings; CAST-IRON and cracked sectional boilers; cracked or broken cylinders or water jackets; STEEL frames or any broken parts of automobiles or other machinery. We weld cracked steam boilers with our large portable plant at your home.

201 FIFTH ST. NORTH

Phone 926

FARGO, NORTH DAKOTA

at one end of the fourth or roosting floor. Litter, feed, and water are placed from the south side. The eggs are gathered and the roosts are cleaned thru drop doors at the north.

The twenty pullets in the newly planned house laid 363 eggs during December; while the 18 pullets of the same hatch, in an old style house of twice the dimensions, equally warmed, lighted, ventilated, layed one-third less eggs per pullet on the same rations during the same month. How is the difference accounted for? Simply the newly planned house meets all the conditions governing the nature of the laying hen. It also provides economy and convenience for the owner.

This house can be built by any one, portable, any length, and for any number of fowls. It is especially adapted for the "fresh air" method, and for an open summer house. In the brooding season it is convertible into three houses; namely, the two lower floors will provide for two flocks of chicks, while the upper two floors will remain the quarters for the laying hen.

I would be glad to hear from those who have used the four-story house, and hear the testimony of others.

BROODER CHICKS Mrs. B. F. Wilcox

Fifty per cent or more of all chicks hatched in the country die of white diarrhoea. That death generally occurs within ten days after hatching. More incubator chicks follow this death route than hen-hatched. Therefore, this shows that there is something lacking which was supplied by Nature. The temperature of the body of the hen where the chicks hover is about 104 degrees. Observe the little simple law of digestion which will obliterate this trouble. Last year I had splendid success by having an extra incubator heated up to about 100 degrees on the nursery floor. Just as soon as possible, without danger to the hatch, I removed the chicks and placed them in this incubator. A chaff was sprinkled over the floor. In these cases no disease was noticed. The chick cannot keep up enough heat to prevent the egg yolk inside its little body from becoming chilled, that is, from falling below the temperature of 98 degrees, and there is a cold mass of indigestible material which the chick can

not assimilate and shortly you see the result—white diarrhoea.

The nutritive material is first digested and then assimilated or absorbed.

These are vital processes, and all vital processes can only proceed at a fixed temperature called the vital temperature. If it falls below this these processes are checked and trouble results while death may not follow immediately, the stunted body may linger a long time. Complete recovery is impossible, and it never makes a profitable bird for any purpose. This uniformity of temperature is the first essential and must be maintained regardless of cost.

You can now see why white diarrhoea takes place within from one to two days from hatching and why we say that if we can get the chicks over the first ten days we are safe.

If your chicks are dying, and you want to be convinced of the cause; just open one of the chicks. Nine cases out of ten you will find decomposed yolk in the yolk sack. Chicks normally hatched and given almost any kind of care will seem to thrive for the first day or so; then the trouble begins. The critical period is the first ten days. Starving the chicks right is half the battle. When they arrive at the age of three or four weeks they have nearly passed the dangers of chickendom. One danger is over-feeding. The chicks digestive organs are not strong and should not be fed too heavily. Improper feed and brooding chicks the first two weeks of their lives unmakes more would-be poultrymen than any other thing else. It is the foundation of all disease. It is essential that chicks be well born. There is no mystery about feeding chicks. It is easy; only requires commonsense. Many chicks die of "too high living."

No matter what the feed, be careful to just supply the needs of the chicks. Better keep them just a little hungry than to feed too much. Failure in brooder chicks is due to the care given them. In most cases it is wretched. The more care you give them the larger the returns. Lice prey upon the chicks if brooders and coops are not kept clean.

Silver-Laced Wyandottes, Thoroughbred, Wide Open Laced, Big Utility, Winter Laying Birds. Bred for Business. Eggs for Hatching: 15, \$1.50; 30, \$2.75; 50, \$4.00; 100, \$7.00. Satisfaction Guaranteed.
Anthony Elm - - - Lansford, N. Dak.

North Dakota has a Wholesale Grocery Mail Order House, See Page 14.

50 Best Paying Varieties Pure-Bred Chickens, Ducks, Geese, Turkeys, Eggs, Dogs and Incubators. All at Low Prices. Send 4c for my Book which gives reliable information worth many dollars to you
W. A. WEBER, Box 926 Mankato, Minn.



55 BREEDS Pure-Bred Chickens, Ducks, Geese, Turkeys, also Incubators, Supplies, and Collie Dogs. Send 4c for large Poultry book Incubator Catalog and Price List.
H. H. HINIKER, Box 30 Mankato, Minn.

S. C. White Leghorn Cockerels \$1 each.
Oscar Anderson R. R. No. 2 Edmore, N. D.

FOR SALE. Rose Comb Rhode Island Red Cockerels.
IRA HEIDLEBAUGH, Pleasant Lake, N. D.

ELEVEN YEARS A BREEDER
Pure-bred poultry: White Wyandottes, Toulouse Geese, Bourbon Red Turkeys and Pearl Guinea Stock for sale. Write me your wants.
E. A. TOW, R. R. 3 LISBON, N. D.

EGGS FOR HATCHING from pure bred Buff Orpingtons. \$1.50 for 15; \$2.50 for 30.
F. M. PEZALLA, CAYUGA, N. D.

BUFF WYANDOTTE EGGS for hatching. Fowls for sale. Also twelve breeds of Fancy Pigeons.
M. B. NOBLE, Hillsboro, N. Dak.

BARRED ROCKS
Bred to Lay and Win
Won all first at Fargo, N. D. State Show, 1906, 1907, 1908, 1909 and 1911. Stock at reasonable prices
PETERSON BROS. Harwood, N. D.

HAUSMANN POULTRY FARM
Breeder of W. Wyandottes and S. C. W. Leghorns
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EGGS FOR HATCHING. White Plymouth Rocks (Fishels Strain) \$5 per 15. 1 have the Best in the Northwest. No exceptions. **Indian Runner Ducks** from Choice High Bred Stock, \$2.50 per 11. **Canadian Wild Geese**, \$1 per egg.
C. H. McGEE, Oriska, N. Dak.

WHITE WYANDOTTES. If you want eggs from an early maturing, heavy laying, prize winning strain of White Wyandottes write me. I am developing a special laying strain by use of the trap nest. Prices reasonable. Write
M. C. JAMES, Valley City, N. D.

MAKE YOUR HENS LAY MORE EGGS
I have a method that will make your hens lay every day; it never fails. Write for it. 2c stamp.
MRS. B. F. WILCOXON, North Platte, Neb., Dept. 8

FOR SALE. M. B. Turkey Toms, raised from our Diploma Stock, \$5.00 and up; also Eggs from 26 varieties poultry. Catalog free.
L. GULDEN, Osakis, Minn.

Rose Comb Black Minorcas
Eggs for sale, \$2 for 15 eggs.
C. WYSH, CASSELTON, N. D.

BARRED ROCKS
Let me have a chance to supply you with some of the choicest birds in the state. I have other strains also. Prices according to the individual. Eggs in season.
CARL FLEMING - LISBON, N. DAK.

WE DUPLICATE ALL INFERTILE EGGS

White and Columbia Wyandottes, Single Comb White Leghorns, and Light Brahmas. We use trap nests. In business 30 years. Brahma eggs, \$3 for 15; \$5 for 30. The other varieties, \$2 for 15; \$5 for 50; \$10 for 100. Address,
Michael K. Boyer,

Box 17 - Hammonton, New Jersey

KARL THOMTE BREEDER OF - - - ROSE COMB RHODE ISLAND REDS LISBON, NORTH DAKOTA

I won 1st Hen, 1st Pen, 2nd Cock, 3rd and 4th Pullet at State Poultry Show, Fargo, N. D. January 10-17, 1913.

Will send stock on approval. Let me hear from you early. February 1st I got 46 eggs from 75 pullets after three days of 20-below-0 weather. No artificial heat used.

Hens and pullets, each.....\$1.00 to \$2.50
Cocks and cockerels, each.....\$1.50 to \$5.00
Pens of six birds.....\$10.00 up
Trios.....\$5.00 up

1st Pen.....\$2.00 for 15 or \$6.00 for 50
2nd Pen.....\$1.50 for 15 or \$4.50 for 50
3rd Pen \$1.00 for 15, or \$3.00 for 50; \$5.00 for 100

hence the superior quality of his 1913 matings.

During the past season he has furnished his customers with birds and eggs which have produced prize winners in the biggest poultry show ever held in the city of La Moure. This should alone be positive proof that he is selling his customers good stock and eggs. You won't be called upon to pay from two to five dollars an egg either.

His booklet, which will tell you what he has for your inspection, will be sent on request.

A CORRECTION

This paper was in error in stating the weight of the different varieties of geese. Correct weights, according to the American Standard of Perfection (which was revised in 1910) are as follows: Toulouse—adult gander, 25 lb.; young gander, 20 lb.; adult goose, 20 lb.; young goose, 16 lb.; Embden—adult gander, 20 lb.; young gander, 18 lb.; adult goose, 18 lb.; young goose 16 lb.; African—adult gander, 20 lb.; young gander, 16 lb.; adult goose, 18 lb.; young goose, 14 lb.; Chinese—adult gander, 12 lb.; young gander, 10 lb.; adult goose, 10 lb.; young goose 8 lb.; Canadian have the same weight as the Chinese; Egyptian—adult gander, 10 lb.; young gander, 8 lb.; adult goose, 8 lb.; young goose, 6 lb.

NOTE. The weights given are taken from the latest "Standard." The Standard of 1910-1915. A Standard holds good only for five years, when a revision is made.

G. H.

A FEW NOTES

Dampness in the hen-house is a serious proposition at this time of the year especially, and is one of the surest means of promoting disease.

Potatoes are cheap this year in nearly all parts of the country and small potatoes ought to be procured quite reasonable and make an excellent addition to your green foods.

In American Poultry World I find a statement as follows: "Never use wood ashes as a dust bath as they are strongly alkali and will irritate the skin and bleach the shanks. Road dust is preferable for a dust bath, but sifted coal ashes answers the purpose." I should contradict this statement in such a way, that the person who wrote it has not had enough experience, or if he did, has not paid enough attention to it. We, of course, all know road dust is the best for a dust bath. I do not know either whether the wood ashes bites the skin. This, however, I do know that hens enjoy it and I cannot say that it discolored the shanks. I, furthermore,

know in using coal ashes, that it will cause "scaly leg," which in bad cases is very painful to fowls. Common sense will tell a person that fowls will do without a bath as well as they would with scaly legs.

PLANS FOR THE ORGANIZATION OF GIRLS' POULTRY CLUBS

While it may be a fad, it is a good fad, to interest the boys and girls of the farm in broad lines of agriculture, for, as stated by President Taft a week or so ago, anything that can be done to induce the boys and girls to stay on the farm makes for the Nation's welfare of the future. The boys of the country have fairly gone wild over the corn clubs, particularly when there is the inducement of a trip to Washington and receptions by the President and the Secretary of Agriculture. Then the girls of the South have entered with a vim in the work of the canning clubs. Later came the girls' poultry clubs, and in order that those who are interested in this new movement may proceed in the right direction, the Department of Agriculture will issue within the next month as Circular 208 of the Bureau of Animal Industry, full directions for "The Organization of Girls' Poultry Clubs," by Harry M. Lamont, of the Animal Husbandry Division.

CALIFORNIA HONEY, freight prepaid anywhere on trial before paying. Three grades: 10½¢, 11½¢, 12½¢ pound. Sample 10c. Leaflet free. Agents wanted, good profits, steady orders. Spencer Apiaries Co., Box 171, Nordhoff, Calif.

Hatching Eggs and Breeding Stock

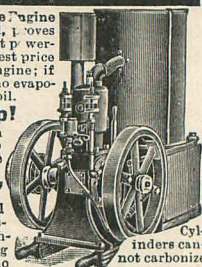
Heavy-Laying, Prize-Winning Birds

Buff Orpingtons—White, Buff and Barred Rocks—White, Buff, Silver, Golden, Columbian and Hadaway strain of Partridge Wyandottes

O. A. Barton, Valley City, N. D.

Use KEROSENE Engine Free!

Amazing "DETROIT" Kerosene engine shipped on 15 days' FREE Trial, 100% kerosene cheapest, safest, most powerful fuel. If satisfied, pay lowest price ever given on reliable farm engine; if not, pay nothing. No waste, no evaporation, no explosion from coal oil. **Gasoline Going Up!** Gasoline is 5c to 15c higher than coal oil. Still going up. Two pints of coal oil do work of three pints gasoline. **Amazing "DETROIT"**—only engine running on coal oil successfully, uses alcohol, gasoline and benzine, too. Starts without cranking. Only three moving parts—no cams—no sprockets—no gears—no valves—the utmost in simplicity, power and strength. Mounted on skids. All sizes, 2 to 20 H. P., in stock ready to ship. Engine tested before crating. Comes all ready to run. Pumps, saws, threshes, churns, separates milk, grinds feed, shells corn, runs home electric lighting plant. Prices (stripped), \$29.50 up. Sent any place on 15 days' Free Trial. Don't buy an engine till you investigate the money-saving, power-saving "DETROIT." Thousands in use. Costs only postal to find out. If you are first in your neighborhood to write, you get Special Extra-Low Introductory price. Write! (138) **Detroit Engine Works, 385 Bellevue Ave., Detroit, Mich.**



The Blue-Ribbon Incubator of Quality

Many incubators fail for early hatching in this country on account of not being properly constructed for the climate.

An Incubator to give the best results here must have a special case, made of such material and in such a manner as not only to retain the heat but also keep out the cold.

THE BLUE-RIBBON is especially constructed in this respect, having double walls, top, bottom, and door, each wall one inch thick and one inch of dead air all around the machine to keep in the heat and to keep out the cold.

It is an automatic incubator as it has an automatic lamp, regulator, ventilation, moisture and heating system. It is the incubator that hatches good strong, healthy chicks with less labor and less expense than any other incubator on the market.

We also have pure bred chickens, including Dark Brahmas, Black, Buff, White, and Partridge Cochins, White Leghorns, S. S. Hamburgs, Blue Andalusians, W. F. B. Spanish, Pekin and Rouen Ducks, Embden and Toulouse Geese, M. B. Turkeys, and White Holland Turkeys. Eggs for sale. If interested, write for Free catalog.

Keep your eye on the next issue of the N. D. F., when a cut will appear.

C. H. AHRENS - FARGO, N. D.



125 Egg Incubator and Brooder Both For \$10

Why pay more than our price? If ordered together we send both machines for only \$10.00, and pay freight charges East of Rockies. Hot water, double walls, dead air space between, double glass doors, copper tanks and boilers, self-regulating. Nursery under egg tray. Incubator and Brooder shipped complete with thermometers, lamps, egg-testers—ready to use when you get them. Five year guarantee—30 days trial. Incubators finished in natural colors showing the high grade California Redwood lumber used—not painted to cover inferior material. If you will compare our machines with others offered at anywhere near our price, we will feel sure of your order. Don't buy until you do this—you'll save money—it pays to investigate before you buy. Send for FREE catalog today, or send in your order and save time. Money back if not satisfied. Write us today. Don't delay. (12) **WISCONSIN INCUBATOR CO., Box 68, Racine, Wis.**



1900

C. C. DIBLEY & SON

1913

BREED THE BEST

Barred Plymouth Rocks
White Plymouth Rocks

Light Brahmas
Buff Wyandottes

Single Comb Rhode Island Reds
Columbian Wyandottes

Look up our winning in Poultry Herald, February and March numbers.

Stock and Eggs for Sale

WOLVERTON,

MINNESOTA, R. R. 1

School and Home

WASHING CLOTHES

Miss Linder, Home Economics Department, N. D. A. C.

Air, sunshine, water, and soap may be said to be essentials to successful laundering. The best results are obtained if these four agencies are generously employed.

Water dissolves the dirt and carries it from the clothes; hence a generous use of water is very desirable in the cleaning of clothes. Soft water is best, but if this is not available "hard water" which has been softened by adding to it an alkali, washing soda, lye, borax or ammonia may be used. Care should be taken in the use of alkalies as the addition of too much will weaken the fabric and injure the hands. The amount to be used depends upon the degree of "hardness" of the water, and no hard and fast rule can be followed.

Before beginning to wash, sort the clothes in the following order:

Table linen and clean towels

Bed linen

Body linen

Handkerchiefs—these should be soaked, washed and boiled separately if used by those having colds.

Soiled towels and cloths

Stockings

Colored clothes

Woolens.

A good plan is to soak the clothes over night. To do this, wet the garment to be soaked, rub the soiled part with soap or soap solution and fold that part in. Fold and roll each garment separately. It is well to put the less-soiled clothes in one tub and those which are much soiled into another tub. Cover the clothes with warm soapy water. Do not soak stockings, colored clothes or woolens.

The next morning proceed as follows:

Put water on to heat.

Make soap solution by shaving one bar washing soap in two or three quarts of cold water. Heat gradually until soap is dissolved (about one hour).

Rinse clothes from the water in which they have soaked.

Pour warm water into a tub or washing machine. Add soap solution or soap to make a good suds. Put into this water the clothes rinsed from the tub in which they were soaked. If a tub is used, rub clothes on washboard, or if a washing machine is used, wash about 10 or 15 minutes. Whenever the water becomes dirty, prepare fresh suds. Clothes can not be made clean in dirty water.

Wash woolens in luke warm water. Be sure that all water used in the washing of woolens is of the same temperature as the first water into which they are put. It is the change in temperature which causes woolens to felt and mat together.

Boil white clothes in clean, soapy water. Water should be cold when clothes are put in the boiler. Boil 8 to 10 minutes.

Remove clothes from the boiler to a tub. Add a pail of cold water and wring.

Rinse in clean clear water. Wring.

Rinse in bluing water. Wring.

Starch.

Remove from line, dampen and fold.

Do not hang woolens out in freezing or very cold weather.

Do not hang woolens too close to a fire, as the extreme change in temperature will

shrink or felt them.

Do not press flannels or woolens when they are too damp, lest the hot iron turn the moisture into steam and the woolens become felted.

ALBERTA

The Price of Beef

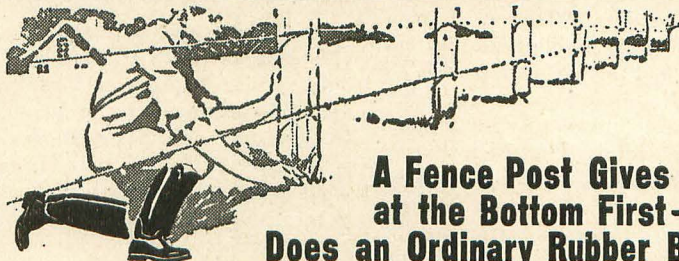
is High and so is the Price of Cattle.



For years the Province of ALBERTA, (Western Canada), was the Big Ranching Country. Many of these ranches today are immense grain fields, and the cattle have given place to the cultivation of wheat, oats, barley and flax, the change has made many thousands of Americans, settled on these plains, wealthy, but has increased the price of live stock. There is splendid opportunity now to get a FREE HOMESTEAD OF 160 ACRES (and another as a pre-emption) in the newer districts and produce either cattle or grain. The crops are always good, the climate is excellent, schools and churches are convenient and markets splendid in Manitoba, Saskatchewan or Alberta. Send at once for literature, the latest information, railway rates, etc., to

Canadian Government Agent
Clifford Block
Grand Forks, N. D.

or write Superintendent of Immigration,
Ottawa, Canada.



**A Fence Post Gives Way
at the Bottom First—So
Does an Ordinary Rubber Boot.**

Right on the sole where earth, air, water and wear join forces to rot everything they touch, "Ball-Band" Boots give famous service.

"BALL (Red) BAND"

It takes brains and experience, as well as good rubber, to make a boot sole, and all of these enter into the making of "Ball-Band" Footwear.

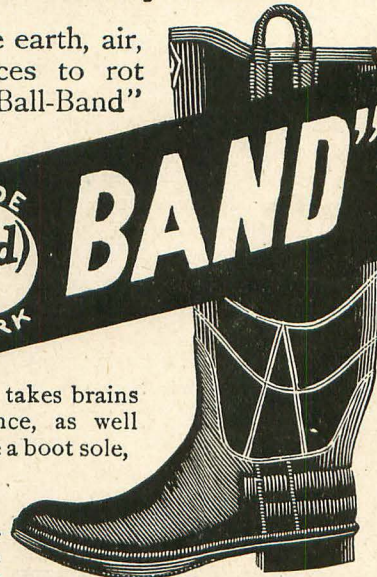
Take a "Ball-Band" Boot and wear it out—you'll find it a harder job than you thought, because these boots are made to resist wear. "Ball-Band" Boots are made by men who know how to make them stand the snags, the bumps of frozen ground and the kicks of clods and rocks.

Many friends have written us some remarkable records of what "Ball-Band" goods have done. We invite you to write us, especially if your dealer does not sell "Ball-Band" goods. Look for the "Ball-Band" trade-mark, the Red Ball in store windows and on the boots.

Write for Free Illustrated Booklet

Mishawaka Woolen Mfg. Co., 324 Water St., Mishawaka, Ind.

"The House that Pays Millions for Quality"



VISITING AND ROADS

W. C. Palmer, N. D. A. C.

One of the needs of country life is a better social life. It has been found that good roads are conducive to social life on the farms. When the road is good it is an easy matter to hitch up and drive over to the neighbors, to church, to the picnic, to the entertainment at the school house. The good road is also followed by a better school and better homes. The better road also makes the community more attractive and the better class of people will want to live there. The good road also makes it possible to market the farm produce more easily and cheaply, and at all times of the year.

These things result in the good road's making the land worth more. The good road is to the farm what the railroad is to the city.

VALUE TO THE FARMER OF BIRDS

Dr. W. B. Bell, in Extension

A pair of nesting wrens have been observed to take over 600 insects from a garden in one day, while investigation shows that 98 per cent of the food of wrens consists of insects. A young robin in one day ate 165 cutworms while another young robin ate from 50 to 75 cutworms per day for a 15-day period. A study of 330 stomachs of robins shows that 43 per cent of the food was animal matter largely insects and their larvae and 47 per cent wild, not tame, fruit. One chickadee had 454 plant lice in its stomach. A cedar waxwing's stomach contained 100 cankerworms, that of a nighthawk 60 grasshoppers, that of a flicker 1000 chinch bugs. A Maryland yellowthroat was reckoned as having eaten 2,500 plant lice in 40 minutes. Insects and their allies constitute 76 per cent of the contents of 205 bluebird stomachs. Caterpillars made up 34 per cent of the stomach contents of 113 Baltimore orioles. Stomachs of 238 meadowlarks examined showed 75 per cent animal matter, nearly all insects. Grasshoppers and crickets were the important items of the bill of fare being 29 per cent average for the entire year and 60 per cent for August. During August and September the food was 99 per cent insects.

MINNESOTA 13

Best Corn for the Northwest.
Carefully selected and graded.

TEST 93%

PER BUSHEL \$3.50

LISBON CORN CO. Lisbon, N.D.

North Dakota has a Wholesale Grocery
Mail Order House, See Page 14.

BIRDS, GAME, AND FUR-BEARING ANIMALS

According to the Annual Report of the Biological Survey recently submitted to Secretary Wilson the rearing of fur-bearing animals in the United States for their pelts continues to be a subject of much interest. Skunks, muskrats, mink, and foxes are reared in captivity or on preserves under control of breeders. The large prices asked for mature black foxes for breeding purposes has resulted in confining the industry in the hands of a very few. Comparatively few attempts have been made to raise mink in the United States, but experiments are being conducted in co-operation with the National Zoological Park with a view to determining the most successful methods of rearing these animals. Muskrat farming has probably reached its highest point of development on the Eastern Shore of Maryland. Muskrat marshes are worth more measured by their actual income than cultivated farms of like acreage in the same vicinity. Only one other animal in the world, the European rabbit, exceeds the muskrat in the number of skins marketed.

The report also calls attention to experiments for the extermination of prairie dogs, ground squirrels, and gophers that are being conducted by means of poison baits, traps, and other methods. It is a surprising fact that the daily forage for 32 adult prairie dogs equals that required for a sheep, and that 250 eat nearly as much as a cow. Spotted-fever ticks in the two younger stages live almost wholly upon small native rodents, and the California ground-squirrel has been infected with bubonic plague by fleas from rats. The

danger that these diseases may become endemic furnishes an additional important reason for the destruction of the animals. The bureau reports that the antelope is in greater danger of extermination than any other kind of American big game, that there is great need for a suitable preserve in the antelope country, and that the buffalo on the National Bison Range have now increased to 81, or 44 more than the original number three years ago.



OUR TRAPPER'S FRIEND AND GUIDE FREE

MODERN METHODS IN TRAPPING. This GUIDE is as different from any Guide you ever saw, as an AUTOMOBILE is different from the old time STAGE COACH. \$100.00 would not buy it of you if you could not get another. You never saw its equal. You get the GUIDE FREE, ordered on our blanks. Write the Old Square Deal Fur House, WEIL BROS. & CO., Box A 48 Ft. Wayne, Ind.

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We Grow Them, Sell Direct,
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The sower
has no second chance.
A good beginning is the
only safe rule; put your
faith in the best seeds you
can buy. Ferry's have had the
highest reputation for over 50
years. For sale everywhere.

1913 Catalogue free on request.
D. M. FERRY & CO., Detroit, Michigan.

SEEDS

A Bright New Book of 180 Pages for 1913

Telling the Plain Truth about BURPEE-QUALITY SEEDS, is mailed Free of Cost to Gardeners everywhere upon Application to
W. ATLEE BURPEE & CO., Burpee Buildings, Philadelphia

Oats, Alfalfa AND Potatoes

Buy your seeds direct from us; cut out agent's profits. We deal direct with our thousands of farmer customers.

Salzer's Rejuvenated White Bonanza Oats
Prize winning, heaviest yielding oats known. Sworn-to yields of 60 to 250 bush. per acre. Your land can return the same to you.

Salzer's Hardy Alfalfa
is the biggest, quickest, most dependable money maker. Our alfalfa on Gov. Hoard's farm produced over \$80 of hay per acre.

Potatoes
Salzer's Earliest yielded 464 bushels to the acre for the editor of Rural New Yorker.

Send for Catalogue and Big, Free Premium List containing valuable premiums for home, kitchen and farm. For 10c we will gladly mail one package each \$1,000 Prize Marquis Wheat, 20th Century Alfalfa, Bonanza Oats and many other farm seed packages, together with our great seed book. Now is the time to send your dime.

JOHN A. SALZER SEED CO.
215 S. Eighth St., LaCrosse, Wis.

There are now 56 bird reservations, and additional inspectors and wardens have been appointed to care for them. The European rabbit, introduced on Farallon Islands, California, and Laysan Island, Hawaii, has become such a pest that efforts will be made to reduce its number on Laysan Island. Every effort has been made to stop the sale of plumage of certain birds, gulls, terns, and especially herons. New regulations passed under the Alaska game law practically makes game refuges of five island in southeastern Alaska. Instructions have been given to the revenue cutters in Bering Sea to insure a strict enforcement of the law protecting walrus.

PACKAGE LIBRARIES

A package library as sent out by the Extension Department of the North Dakota Agricultural College consists of a number of articles treating on one subject. These articles are from books, papers, magazines and bulletins. It is just the thing when material is needed for a speech, an essay, or a debate. During the first ten months that this package library system was in operation there were 450 of them sent out. Ten thousand articles have been loaned. This puts every community of the state within reach of a library. The only cost is the postage or express. In addition to the libraries, recitations, plays, dialogs, constitution for farmers' clubs; in short material of all kinds for getting up an entertainment, a farmers' club meeting, a ladies' club program, can be had for the asking.

PLANT SOME TREES

W. C. Palmer, Agri. Ed. N. D. A. C.

Now is a good time to think about planting trees. The best time to plant is in the spring. The land on which they are to be planted should preferably have been in corn or potatoes or summer fallow. If it was in grain then it should be fall-plowed and deep too. The prairie soil is apt to be compact. Deep plowing opens it up so the tree roots can get thru it easier. Too loose soil is not good either. Spring plowing leaves soil too loose—fall plowing about right. Discing before plowing improves conditions very much.

Trees need to have the soil loosened up to a good depth. The prairie soil is usually quite compact, at least as compared to the soil in a forest. The best time to plant the trees is in the spring. The best crop to precede the trees is a cultivated one as corn, potatoes, garden or summerfallow. If the land was in grain then fall-plow it. Spring-plowing leaves the soil too loose. The plowing should be done deeply too.

W. R. Porter, Supt. N. D. Dem. Farms

In many sections of western North Dakota very few trees have been planted and no section of country has greater need of systematic tree-planting. One of the reasons for this is that many new comers expect to make a fortune in a couple of years growing wheat or flax and then return from whence they came and live happily ever afterwards. Others do not know how to grow trees and hate to take the time and money necessary to produce trees. None of these things should prevent any farmer from planning and setting out a good grove.

Mr. David Steiner of the Beach Demonstration Farm on the extreme edge of North Dakota has a grove of three or four acres surrounding his buildings. These trees have all been planted in the past five years and many of the trees are now over twenty feet high. Plum trees are loaded with luscious fruit. Crab apple trees are so heavily loaded that they have to be propped up. A friend from Wisconsin visited Mr. Steiner recently and he said he would give three thousand dollars more for Mr. Steiner's land than he would give for any other farm in the vicinity of Beach, just because of the grove and bearing fruit-trees. Mr. Geo. Cline of Mott has also been in western North Dakota five years and he has eight acres of very healthy looking trees, many of them fifteen to twenty feet in height. These trees have gone thru the very dry seasons of 1910 and 1911 and the very cold winter of 1911-12 successfully, thereby demonstrating the fact that western North Dakota is adapted to tree-culture, if the right varieties are planted and they are properly taken care of afterwards.

The essentials of successful tree culture in western North Dakota is—first, thoro preparation of the soil by deep plowing and summer tillage or corn or potato culture the year before the trees are set out; second, early spring planting of the proper hardy varieties such as boxelder, cottonwood, green ash, elm and the white willow; third, thoro cultivation after the trees are set out. Keep the tree plantation as clean as a garden until the trees are large enough to shade the ground. After that a few cultivations should be given each year and the trees will soon become a priceless asset of the farm home.

LEARN THE BARBER TRADE

Barbers always in demand, big wages, easy work, few weeks completes by our method. Free, beautiful and illustrated catalog explains everything. Write at once, special inducements now.

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12 Nicollet Ave., - - - Mpls., Minn.

A Full Value Blue Serge Suit for 17.50

That will give you satisfaction in style, fit and workmanship as well as in quality. Send in your breast, waist, seat, inside trouser, and sleeve length from center of back to hand, or send for measure blank.

N. ANDERSON

946 Barry Ave., Chicago, Ill.

WORK SHOES THAT WEAR

Mayer Honorbilt Work Shoes are made for hard knocks and rough wear. The stock used is selected for its strength and durability. Seasoned upper leather, heavy oak tanned soles, solid counters, double leather toes and double rows of stitching make Honorbilt Work Shoes extra serviceable.

Mayer

**HONORBIT
WORK
SHOES**

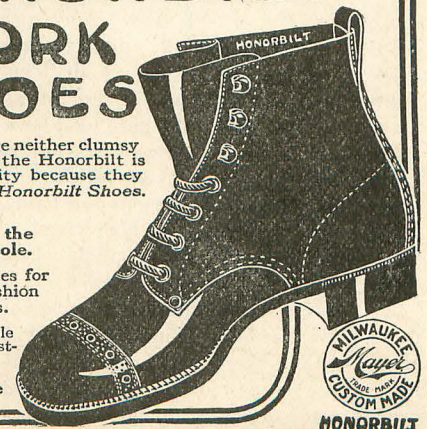
While they are built for hard service, they are neither clumsy nor ill-fitting. For comfort, looks and service the Honorbilt is first among work shoes. They have the quality because they are "built on honor." Ask your dealer for Honorbilt Shoes. If not obtainable, write to us.

WARNING—Be sure and look for the Mayer name and trade mark on the sole.

We make Mayer Honorbilt Shoes in all styles for men, women and children; Drysox, Yerma Cushion Shoes, and Martha Washington Comfort Shoes.

FREE—Send name of dealer who does not handle Mayer Honorbilt Shoes and we will send you free, post-paid, handsome 16x20 picture of George Washington.

F. Mayer Boot & Shoe Co. Milwaukee



HONORBIT

NO NEW COW FOR THE WHITE HOUSE

As soon as President-elect Wilson learned that an Iowa farmer intended to present him a fine cow as the successor of Pauline Wayne, the present White House cow, he knocked all plans in the head by issuing the statement that he will continue in force the same policy that he adopted when he became Governor of New Jersey—no acceptance of gifts of any kind. Mr. Wilson enforced this rule last winter when a whole host of safety razor manufacturers sent him safety razors, on reading that he had cut himself with one of the old-fashioned variety. Mr. Wilson still continues to use his old-fashioned blade, and by the same manner of reasoning it has been decided by those who know or profess to know Mr. Wilson's policy, there will be no new cow at the White House—in fact no cow at all unless Pauline is permitted to stay or the new President buys himself a cow of his own.

In any event the new President will be assured of a good milk supply for at present Uncle Sam thru the agency of the Bureau of Animal Industry of the Department of Agriculture, makes a careful investigation and study of all cows that furnish Washington with milk—in fact, the cows of the Capital must be tested every 6 and 12 months for tuberculosis.

From unofficial sources it is learned that Pauline Wayne is to be shipped to Mr. Taft's home in Ohio upon his retirement. Nona of Avon, the supposed successor of Pauline will not be seen in Washington. Possibly when Mr. Wilson learned her name he decided that he wanted none of her milk to drink.

WILL BE HIS OWN BOSS

Word comes from the Bureau of Chemistry of the Department of Agriculture, that Dr. Carl L. Alsberg, the newly appointed chief of the Bureau, is going to be "his own man." This was the advice given him by Secretary Wilson, in discussing the appointment and the problems of the department with the Doctor. In fact Dr. Alsberg has laid down a platform or commandments of his own. These in his own words are: "I shall be my own man. I shall have the department's work on constructive lines. I shall endeavor to be a good public servant always. I shall enforce the pure food laws. I shall carry out the good work started by Doctor Wiley. I shall do all in my power to see that the public gets pure foods, I shall aim to get men of high standing for any vacancies by giving credit where credit is due."

Dr. Alsberg states that he will endeavor to employ the best scientists available. He feels that there has been some reluctance in the past on the part of noted men to enter the Government service be-

cause often the credit for good work goes to the head of a bureau rather than to the individual. Hence the Doctor hopes to have credit placed where credit is due so that the Bureau of Chemistry may obtain in time of need college professors or other renowned scientists.

BIRDS AND WEED SEEDS

By Dr. W. B. Bell

Birds are occasionally accused of scattering weed seeds by carrying them in mud on their feet or dropping them with the excrement. This is so small an item compared with the enormous number of weed seeds destroyed as to be negligible. Anyone who will take the trouble to go out thru the weed patches during September, October and November while the Juncos, White-Throated, Harris and Tree Sparrows and others are migrating can see abundant evidence of the hosts of helpers in the constant struggle of the farmer to keep down the weeds. Continuing this observation thru the winter, spring and summer will be a revelation to any alert,

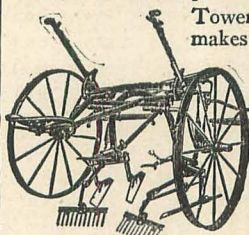
thoughtful observer. According to the careful investigations and estimate of F. E. L. Beal of the U. S. Biological Survey, the Tree Sparrow alone destroys 875 tons of weed seeds annually in the single state of Iowa. A single stomach contained 700 seeds of pigeon-grass. Couple with this the weed seeds destroyed by the many other equally valuable native species of Sparrow found abundantly in Iowa and North Dakota and we have a grand total which means an incalculable saving to the people of the state.

The examination of 725 stomachs of the Red-Winged Black-bird showed 74 per cent was vegetable matter mostly weed seeds, while the remainder consisted largely of weevils and grasshoppers. The stomachs of Mourning Doves contained 64 per cent of weed seeds for the entire year including such pests as pigeon-grass, rag-weed and smart weed.

Young man, would you accept and wear a fine tailor-made suit just for showing it to your friends? Or a Slip-on Raincoat Free? Could you use \$5 a day for a little spare time? Perhaps we can offer you a steady job? Write at once and get beautiful samples, styles and this wonderful offer. Banner Tailoring Company, Dept. 63, Chicago

Towers' Surface System

Kills weeds; damages no corn roots; enlarges yield



Towers' Cultivator stirs every inch of ground between the rows; makes a dust mulch—to retain moisture and furnish liquid food for the plant; preserves crop roots; slaughters weeds; prevents "firing" of corn. **Increased yield, earlier maturity** of corn, cotton, potatoes, etc., will result if your 1913 cultivator has the name

"TOWER" on the tongue

Lighter draft on team; easier to manage—a boy can do it. Send a postal for our free "Treatise on Corn Culture." **J. D. TOWER & SONS CO., 68th St., Mendota, Ill.**

SEED CORN

North Dakota and Northern
Minnesota Grown

MILLET - GRASS SEED
Seed Potatoes

N. J. Olsen Co., Moorhead, Minn.

Seasonable Receipts

Raised Doughnuts

When the dough for buns is ready to shape, roll on the molding board, cut into doughnuts, and fry in hot fat. When done, dust with powdered sugar and cinnamon.

Apple Tarts

Cook soft six tart apples, rub them thru a colander, and add one well-beaten egg, grated rind and juice of one lemon, butter the size of a walnut, and one cup sugar; mix well. Line tart pans with French puff paste, fill with the sauce, and bake quickly.

To Clarify Mutton Fat

Free the mutton fat from all objectionable parts, and put to soak in enough cold water to cover. Let stand twenty-four hours and change the water once. Pour off the water in which the mutton fat has soaked and add one cup of liquid (half milk and half water) for each pound of mutton fat, and cook until the liquid is evaporated, then strain out the clear fat and cool. This fat may be used for ginger snaps and ginger cake.

Plain Cup Cake

Three eggs; one and one-half cups sugar; one-half cup melted butter; one cup water (or milk, in which case reducing butter by one-third); three cups flour; three teaspoonfuls baking powder; flavor with vanilla, or as desired. This receipt may be varied by adding spices, a cup of grated cocoanut, a cup of chopped nut meats or two ounces of melted chocolate. It is a good foundation cake.

Baked Indian Pudding

Scald one quart milk; stir into a little cold milk one teacupful yellow cornmeal, and add to the boiling milk, stirring until it thickens, but no longer! or it will not bake well. When nearly cold, add two well-beaten eggs, a pinch of salt, a pint of cold milk, and sweeten with half sugar and half molasses; flavor with nutmeg, if at all; bake about one hour, or until water bubbles from the top. Serve hot with maple syrup or a hard sauce.

Chocolate Cookies

Rub together one cupful of sugar and one-half cupful of butter slightly melted. Add one whole egg and one yolk, one cupful of chopped nuts, one cupful of raisins, stoned and floured, three-fourths of a cupful of sweetmilk and two cupfuls of flour in which two teaspoonfuls of baking powder have been sifted. Melt two squares of unsweetened chocolate and put in last. Flavor with vanilla. Drop in small pieces on pan and bake in moderate oven.

To Make a Thickening of Water and Flour

Measure the flour, add an equal amount of cold water, and stir until smooth; then add more water, until it is thin as griddle cake batter. Now add carefully a little of the liquid to be thickened, and when very thin, pour slowly into the boiling liquid, stirring rapidly, and pouring slowly. In making a boiled custard, pour the boiling milk over the beaten eggs in the same way to prevent lumping.

Escaloped Beef

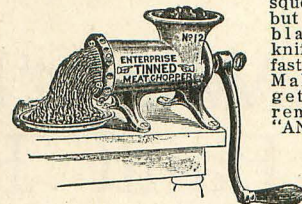
Cut cold roast beef or steak into dice, and cook slowly in a very small amount of water until tender. Cook together, until brown, one-half tablespoonful each of butter and flour, and add one-half cup of soup stock or water from the roasting pan, and two tablespoonfuls of strained tomato. Pour over the meat in the dish in which it is to be served enough to make quite moist, cover with buttered crumbs, and bake in the oven.

If you will make a pad of old woolen or flannel garments to stand on while ironing you will find you will not be nearly so tired.

FARM-MADE meat products mean bigger profits for you and very little extra trouble. Always a salable market. No other way offers such a fine opening as for you to do your own "killing" and marketing. Every farmer who does, needs an

ENTERPRISE Meat AND Food Chopper

The one chopper that chops.



Does not mangle, squeeze or crush, but has a four-bladed steel knife that cuts fast and clean. Make sure of getting it by remembering "AND"—Enterprise Meat AND Food Chopper.

Your wife will find it an everyday help in the kitchen, too, for making the many delicious dishes that farmers' wives know all about. So easy to clean, too. It repays its cost almost every week. Enterprise Meat AND Food Choppers are made in 45 sizes and styles—hand, steam and electric power.

No. 5—Family size.....hand \$1.75
No. 12—Farmers' size.....hand 2.25
No. 22—Farmers' size.....hand 4.00

We also make cheaper food choppers, but recommend the above. Send for "The Entertaining Housekeeper," a fine 200 recipe cook book. Your wife will like it.

THE ENTERPRISE MFG. CO. OF PA.
Dept. 32, Philadelphia, Pa.

North Dakota has a Wholesale Grocery Mail Order House, See Page 14.

Write Ideas For Moving Picture Plays!

YOU CAN WRITE PHOTO PLAYS AND
EARN \$25 OR MORE WEEKLY

We Will Show You How!

If you have ideas—if you can **think**—we will show you the secrets of this fascinating new profession. Positively no experience or literary excellence necessary. No "flowery language" is wanted.

The demand for photoplays is practically unlimited. The big film manufacturers are "moving heaven and earth" in their attempts to get enough good plots to supply the ever-increasing demand. They are offering \$100 and more, for single scenarios, or written ideas.

We have received many letters from the film manufacturers, such as VITAGRAPH, EDISON, ESSANAY, LUBIN, SOLAX, IMP, REX, RELIANCE, CHAMPION, COMET, MELIES, ETC., urging us to send photoplays to them. We want more writers and we'll gladly teach you the secrets of success.

We are selling photoplays written by people who "never before wrote a line for publication."

Perhaps we can do the same for you. If you can think of only one good idea every week, and will write it out as directed by us, and it sells for only \$25 a low figure,

You Will Earn \$100 Monthly for Spare Time Work

FREE Send your name and address at once for free copy of our illustrated book, "Moving Picture Playwriting"

Don't hesitate. Don't argue. Write now and learn just what this new profession may mean for you and your future.

NATIONAL AUTHORS' INSTITUTE

**R-672—1543 Broadway
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Why "Mound City" House Paint HOLDS Its Gloss

WHY do you see so many dull,
faded-looking houses?

The trouble with such houses is that they are Oil-hungry. They are painted with a paint that has not enough Linseed Oil in it—a paint that never *could* have enough Oil in it on account of the character of the pigments used.

The best Paint *must* do two things. It must preserve and beautify. Do you know that Linseed Oil is *the* great preservative in Paint and that if it were not for the sake of appearance, you could give your house a coat of pure Linseed Oil, and it would be protected?

The solid part of Paint (Strictly Pure White Lead, Strictly Pure Zinc, and, in some Paints, baser metals) acts as beautifier only.

Strictly Pure Zinc absorbs more Oil than any other pigment and that is the reason for its use in Horse Shoe Paint. WHITE LEAD is used for its covering qualities, and ZINC for its *Oil-carrying* capacity.

And Oil-carrying capacity is what your Paint *must have* if your property is to be protected.

Horse Shoe Paint, while it covers and beautifies the surface thoroughly, is made of pigments that carry so much oil, that the *first* coat satisfies the oil-hunger of the wood leaving the second coat to gloss, harden, protect, and beautify.

That's why Mound City Horse Shoe Brand House Paint HOLDS its gloss.

Mound City Paint & Color Co.

GOOD MAKERS OF GOOD PAINTS

St. Louis, U. S. A.

Creamed Fish

To two cups of any cold cooked or canned salmon allow one cup of cream sauce. Season with salt and pepper and serve on slices of toasted bread or in pattie shells. This may also be put into a baking dish with crumbs and bits of butter sprinkled over the top and then browned in the oven. Nicely freshened salt, cod-fish may also be used this way.

Imitation New Potatoes

Take small round potatoes, wash and peel them; tie them in a thin muslin cloth or piece of cheese-cloth. Place them in a sauce-pan with enough slightly salted milk and water in equal parts to cover them. Boil slowly till the potatoes are done; then place them in a collander in the oven to dry. When ready to serve, dish them up and pour over them a richly seasoned cream sauce.

Browned Potatoes

Wash and peel medium-sized potatoes. Drain or dry them; then arrange in a baking-pan. Sprinkle with salt and pepper and add two or three ounces of melted butter or meat drippings. Bake in a moderate oven until done, shaking the pan occasionally so that the potatoes will be browned all over. If one likes onion this dish may be varied by slicing two or three onions over the potatoes. Baste occasionally with hot fat and drain all surplus fat off before serving.

Sago and Apple Pudding

Quarter-pound fine sago, one-fourth pound currants, six cooking apples, one-ounce butter, two ounces white sugar, one-half lemon. Put the sago into a stewpan with three cupfuls of cold water, and boil till the sago becomes transparent, stirring all the time; next add the thin rind of one-half a lemon, the currants, and the sugar. Butter a pudding-dish, put in the apples (previously peeled, cored, and sliced), and pour over these the sago preparation. Put the remainder of butter in small bits on the top, and bake until the apples are tender. Serve with a custard.

Chicken Hash or Rice Toast

This is a nutritious dish and is an appetizing way to use the remains of a poultry dinner. The night before needed, boil a quantity of rice, pour it into a dish and place a weight upon it. Next morning cut half inch slices, brush a little butter over them and toast them. Arrange them on a platter; pour a little melted butter over them and then arrange the following on the slices: Trim the meat from the chicken bones; remove the skin, and after cutting the meat fine, put it in a pan with a little water, salt and pepper. When the water has evaporated it is ready to put on the toast. To make a more hearty dish a poached egg may be placed on top.

North Dakota has a Wholesale Grocery Mail Order House, See Page 14.

Soup Without Meat

Cream of Carrots. Scrape six small carrots; cut in small pieces and cover with a quart of boiling water; add a small onion and two outer stalks of celery. Cook until the carrots are done, then rub them thru a sieve. Add one pint of hot milk and a tablespoon of butter rubbed in two of flour. Let come to a boil, season with salt, a dust of cayenne pepper and nutmeg, if desired.

Cream of Sago. Wash three table-spoons of sago and cook until clear in two quarts of water, adding a slice of onion, a tablespoon of celery salt and one clove. Rub thru a sieve and add three egg yolks and one cup of cream beaten together.

Corn and Tomato Soup. Cover one pint of tomatoes with a quart of water; add a pint of corn, an onion and a spray of parsley. Simmer half an hour; add a tablespoon of butter and press thru a coarse sieve. Return to the fire and add a pinch of cloves, a teaspoon of salt and a dash of cayenne.

With Dried Fruit

Delicious Raisin Pie. Stew one cupful of seeded raisins and one-fourth cupful English currants in one pint of apricot juice. Add three-fourths of a cupful of cornstarch moistened in a little juice and four table-spoonsful of butter. Put this filling into a pie-shell previously baked and cover with a meringue of the whites of two eggs and one-fourth cupful of sugar.

Peach or Apricot Dumplings. Drain the stewed fruit as dry as possible and wrap two or three pieces in a round of rich biscuit dough rolled rather thin. Arrange the dumpling in a deep basin, sprinkle

with sugar and nearly cover with the fruit juice boiling hot. Dot with butter and bake in a quick oven. Apricots and peaches are also very nice for short-cake, using the drained fruit for the filling and the juice, slightly thickened and made rich with a little butter, for sauce.

Equal part of apricots and prunes stewed together are delicious. This requires a little more sugar than prunes alone. The addition of one's favorite spice makes a pleasing variation.

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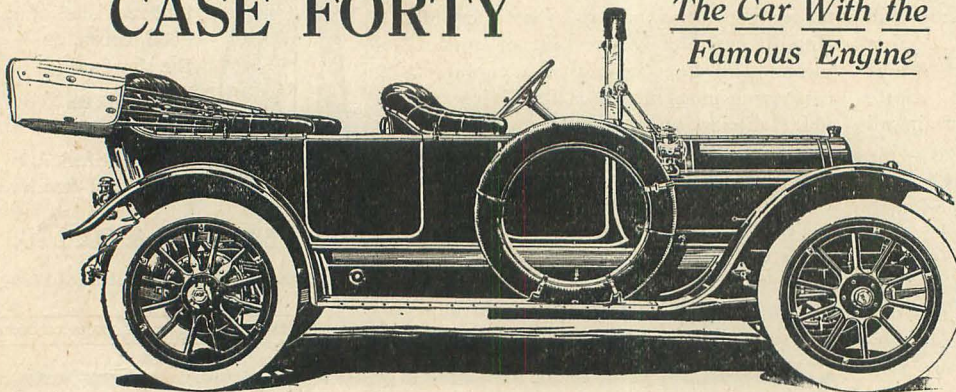
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